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ABSTRACT

Due to federal and state legislation there has developed a situation of confusion regarding the establishment, maintenance, and supervision of postsecondary and adult vocational education, particularly where a division of higher education and a division of vocational education exist in a state. A study undertaken in New Jersey identified four problem areas related to this situation. They were exact counting of different persons who are enrolling in postsecondary and adult vocational programs; definition of a full time equivalent student (FTE); equating FTE for postsecondary and adult vocational education in secondary institutions and higher education institutions; and apportioning funds. Based on these problem areas, seven research questions were formulated. A descriptive research design was implemented to collect the data. Personnel involved with postsecondary and adult vocational education in the New Jersey Department of Education and the Office of Community Colleges and other agencies were first interviewed. Following a review of the literature and the development of a plan of action for the study, a national survey of all state directors was then conducted. Next, a number of vocational educators were interviewed and a questionnaire was mailed to a sample of institutions within the state. Also, telephone interviews were conducted with randomly selected institutions. The results were analyzed and reported for problems one, two, and three. It was concluded that problem four could not be worked on during this project due to limited time. (Included is a large appendix containing data collection instruments, data tables, and other related materials.) (JH)

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ED155338

Full Time Equivalent (FTE) and Definitions for Postsecondary Vocational Education and Adult Vocational Education

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January 20, 1978

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Sincerely,

Charles R. Doty

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FULL TIME EQUIVALENT (FTE)
AND
DEFINITIONS FOR POST-SECONDARY VOCATIONAL EDUCATION
AND ADULT VOCATIONAL EDUCATION

In Public Law 94-482, October 12, 1976, Title I - Vocational Education, Part A, Subpart 1, Sec. 110 (c), the following provision is made for national priority programs.

> For each fiscal year, at least 15 per centum of each State's allotment under Section 103 shall be used to pay 50 per centum of the cost of vocational education for (1) persons who have completed or left high school and who are enrolled in organized programs of study for which credit is given toward an associate or other degree, but which programs are not designed as baccalaureate or higher degree programs, and (2) persons who have already entered the labor market, or are unemployed, or who have completed or left high school and who are not described in paragraph (1).

Prior to the passage of the Federal Law 94-482 debate on the appropriate size of setaside produced several papers. The American Association of Community and Junior Colleges (AACJC) in a memorandum to its members, September 5, 1974, reported:

> Throughout these past months, the Office of Governmental Affairs has been consulting with the American Vocational Association, sharing ideas, and working toward accommodation of differences. Among other goals, the office has been hoping that AVA would agree to an increase in the setaside for post-secondary vocational education. We were, therefore, very pleased and surprised that in its testimony on July 31, AVA recommended that this setaside be raised to a minimum of 30%. We also noted with interest that in a colloquy at AVA's hearings, between Congressmen Perkins and Meed, Congressman Perkins suggested that it might be wise to reserve more than 30% for post-secondary vocational education, perhaps 40% to 50%.

The AACJA members, however, are viewing the setaside for those programs offered as higher education, i.e., grades 13+. The AVA members view this funding generally for those post-secondary

programs conducted by secondary institutions, e.g. full time or shared time vocational schools. These two perceptions have resulted in considerable confusion for the establishment, maintenance, and supervision of such programs, in particular, where a division of higher education and a division of vocational education exists in a state.

PROBLEMS

The following problems resulting from the above situation as well as federal legislation were identified concerning post-secondary and adult vocational education by reviewing the literature, surveying the states in the U.S.A., and interviewing personnel in the New Jersey State Department of Education, Division of Vocational Education:

1. There is an inadequate data collection system to determine the exact numbers of persons enrolling in post-secondary and adult vocational education conducted by secondary institutions and community colleges.

2. There is an inadequate definition to determine the full time equivalent (FTE) of post-secondary and adult vocational students in education conducted by secondary institutions and community colleges.

3. There is no adequate formula for equating the FTE for post-secondary and adult vocational enrollment at secondary institutions with those data produced for post-secondary and adult vocational education at community colleges.

   (Data from these two institutions must be added to give total enrollment.)

4. There is an inadequate formula for assisting in apportioning funds fairly to those institutions sponsoring post-secondary and adult vocational education.

PROGRAM OFFERINGS

A diagram (Figure 1) is included to illustrate the continuum of education and the unique situation of post-secondary and adult vocational education. These programs are offered both by senior high schools (secondary) and community - junior colleges. In effect, post-secondary and adult vocational education are being offered by two different types of institutions. Four year colleges and universities also have various forms of these programs, but this is not presently a concern of this study.

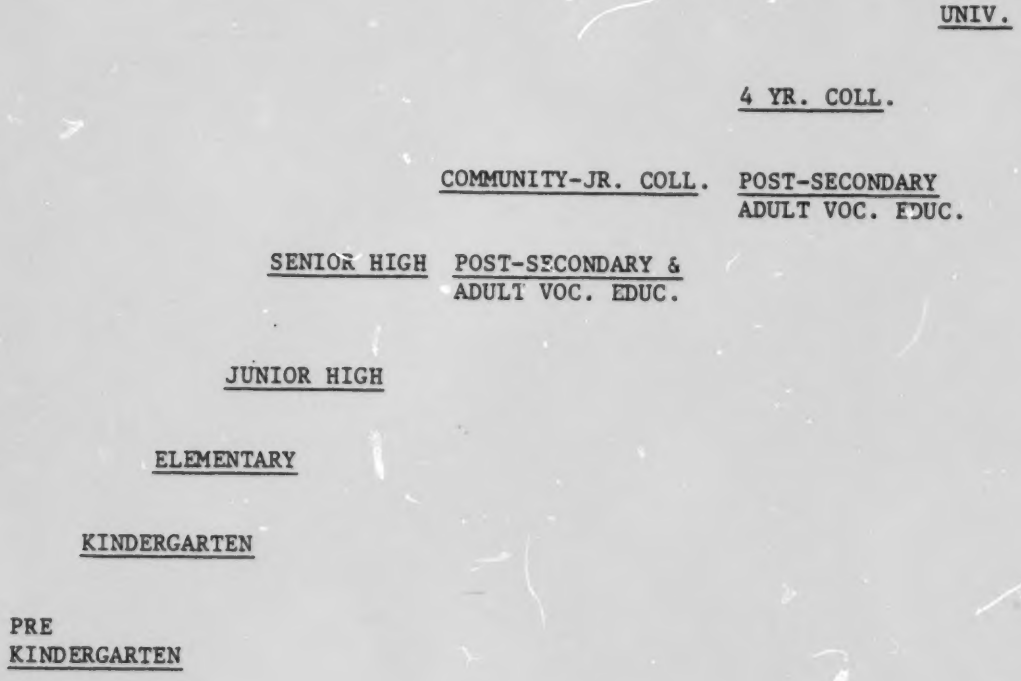

Figure 1. Continuum of Education

OBJECTIVES OF THE STUDY

The research will be focused upon the first three previously stated problems and if time permits, problem four will be investigated.

RATIONALE FOR THE STUDY

The rationale for the study of each of the four problems cited are based on the expressed needs by the members of the New Jersey State Division of Vocational Education and administrators of the vocational schools in New Jersey and other states.

Problem 1 was cited because the New Jersey State Department of Education, Division of Vocational Education needs an exact count of the <u>different</u> persons who are enrolling in post-secondary vocational and adult vocational programs. This head count is a "basic" for planning in a democratic society to answer the questions, how many persons have been effected by this program and how many persons are potential voters for vocational education? A system must be designed to eliminate duplication in counting. This problem is due to a lack of clarification of definition of post-secondary and adult vocational education. It is not a problem unique to New Jersey.

Problem 2 concerns the creation of a definition to determine what is a full time equivalent student (FTE). It is necessary to establish this formula so that a fair measure is available for showing the contact hours considered to be that of a student in full time study.

Problem 3 is stated because there needs to be some method to equate FTE for post-secondary and adult vocational education in the secondary institutions and higher education institutions. Federal funds are distributed by the New Jersey Department of Education, Division of Vocational Education to both the secondary institutions and community colleges offering post-secondary and adult vocational education, therefore, some conversion formula is needed in order to add the data for total enrollment. (Reports to Federal agencies require total post-secondary and adult data, so data from both institutions must be combined.)

Problem 4 must be solved to reduce tension between local education institutions and funding agencies. A formula/s to apportion funds should be designed to include such variables as cost of programs, types of students, etc.

Research Questions

Based upon the previously described background, problem definition and rationale for each of the four problems, the following questions were formulated.

Problem 1 - Exact count of different persons who are enrolling in postsecondary and adult vocational education.

a. Are persons enrolling in two different institutions and, therefore, being counted twice?

b. What is a definition of adult vocational education which will eliminate duplication in counting?

c. What is a definition of postsecondary vocational education which will eliminate duplication in counting?

Problem 2 - Definition of a full time equivalent student (FTE).

a. Has previous research solved this problem?

b. What are the definitions for FTE used in other states?

c. Is there consenus by educators in secondary institutions and community colleges on the definition of FTE in New Jersey?

Problem 3 - Equating FTE for postsecondary and adult vocational education in secondary institutions and higher education institutions.

a. What factors must be included in a conversion formula?

Problem 4 - Apportioning funds. Questions were not identified because not enough was known concerning this problem when the investigator began the project. It was assumed that information would be accumulated while the first three problems were being studied.

LIMITATIONS

Limitations are those aspects of the study which can be identified but not controlled. Following are those limitations:

1. Although the first three problems of this study are strictly concerned with correctly counting the persons enrolling in postsecondary and adult vocational education, most persons with whom the investigator talked answered in terms of funding. To quote what was said several times, "I know what you want! But eventually this will be used in funding decisions so I am going to answer that way."

2. The topic of definitions of postsecondary and adult vocational education and FTE is one of long standing concern in this State and nationally. Therefore a political environment and emotional environment constituted the situation in which the study was conducted.

3. Research is conducted for, at least, two reasons: 1) to learn more about some environment or 2) if the environment and relevant problems are known, research is used to design and test potential solutions for solving the problems. This research is for reason one.

METHODOLOGY

This study was conducted in 22 major tasks. First, members concerned with postsecondary and adult vocational education in the State Department of Education and the Office of Community Colleges and other agencies were interviewed. Second, a review of the literature was conducted. A plan of action for the study was prepared and presented to the Division of Vocational Education. Upon approval of the plan a national survey of all state directors was conducted. An instrument (interview schedule) was prepared and all members of the Bureau of Occupational Programs and selected (based on assignment to postsecondary and adult education) members of the Bureau of Regulatory Services of the Division of Vocational Education were interviewed. A mailed questionnaire was prepared and sent to a sample of institutions within the State. Also telephone interviews were conducted throughout the project with randomly selected institutions to provide input to the decisions needed for the study. Finally the data was analyzed and reported. A flow chart in the Appendix illustrates the 22 tasks.

RESEARCH DESIGN

The type of research design used for this study is a descriptive research design in order to tell "what is."

REVIEW OF THE LITERATURE

To conduct a review of the literature to locate research concerning full time equivalent formulas or definitions for post-secondary vocational and adult education a computer search was conducted. Descriptors used in the search were costs, economic, state aid, federal aid, financing, financial support, financial policy, financial reform, and legislation. The term full time equivalent is not used in the E.R.I.C. Thesaurus.

In addition to the computer research, information was sought at the National Education Association Research Division, Educational Testing Service, New Jersey Office of Fiscal Affairs and New Jersey State Library, etc.

The result of the search was a finding of no research on the topic of full time equivalent for any area in education. The investigator had certainly not expected such a finding.

The only comment worth reporting concerning FTE was in a report by the Illinois State Advisory Council on Vocational Education in 1972.

> Funding by formula tends to encourage the status quo. More resources need to be made available by a discretionary grants and contracts policy for support of start-up costs to implement new programs, services and activity. (13)

In other words funding based solely on full time equivalent is a poor policy.

NATIONAL SURVEY OF STATE DIRECTORS OF VOCATIONAL EDUCATION

After conducting what was, hopefully, a thorough review of the literature, a survey of the fifty state directors of vocational education was conducted. In a letter from Dr. William Wenzel, Assistant Commissioner of Education, the directors were requested to send information used by their states to determine full time

equivalent for postsecondary vocational and adult vocational education. Seventeen replies were received. Telephone calls from Pennsylvania, Florida, Illinois and Ohio were received. Those persons calling requested a copy of the final report, wished the investigator luck and indicated it was an unsolvable problem.

The seventeen states that replied were:

Alaska	New Mexico
Arizona	Ohio
Arkansas	Tennessee
Delaware	Texas
Iowa	Vermont
Maine	Virginia
Michigan	Washington
Montana	Wisconsin
New Hampshire	

Of these seventeen, only six seemed to have information pertaining to the study. Delaware and Ohio use a unit system. For example Delaware's unit system is defined as fifteen students who have completed 144 hours of instruction equal one unit. Iowa's full time equivalent for postsecondary vocational education is:

$$\text{FTE} = \frac{\text{Total contact hours per 36 weeks}}{\text{540 clock hours}}$$

(540 = 15 hours per week x 36 weeks)

Maine's formula is:

$$\text{FTE} = \frac{\text{Enrollment x class hours per week x no. of weeks}}{\text{216 clock hours}}$$

(12 hours per week x 18 weeks = 216 clock hours)

Montana's FTE is:

$$\text{FTE} = \frac{\text{No. of students x instructional classroom hours per week}}{375}$$

(The national average size of postsecondary vocational education is 14.8, so the average of 15 students x the average instructional hours of a class of 25 = 375.)

The State of Washington definition is, "A full time equivalent student is defined as 45 quarter credits or 45 credit equivalents. Quarter credit equivalents are defined as follows:

1. One hour of classroom instruction per week for a quarter equals one credit.

2. Two hours of shop or lab instruction per week for a quarter equals one quarter credit.

3. Three hours of clinical experience per week for a quarter equals one credit.

4. Five hours of other learning experience such as vocational cooperative work experience per week for a quarter equals one credit.

The reply of Wisconsin contains some unique information concerning assignment of credit. The policy concerning this credit is in the Appendix and may be of interest to the reader.

TAXONOMY OF VARIABLES

As a result of the interviews, review of literature and national survey the variables selected for consideration in their study are illustrated in the matrix, Figure 2. This matrix is not intended to be inclusive of all the variables concening the four problems identified for this project. To achieve such a complete matrix would be a study itself. The cells which are cross hatched with lines are those for which data was collected.

MAILED INSTRUMENT

After completing the review of literature and national survey, there was insufficient information to structure a data collection system in order to answer the questions stated for this study. The investigator then designed an interview schedule (see Appendix) and distributed the instrument to all members assigned responsibility for postsecondary and adult vocational education within the Division of Vocational Education. (It should be reported that on 9/20/77 the Office of Community Colleges had been contacted for information concerning the study.) All members of the Bureau met with the investigator 10/7/77. Individual meetings with the other individuals occurred prior to this date. Information was also obtained from the New Jersey Consortium on the Community College, Inc., Teaching Learning Task Force, whose members are representative of administration and instruction, at an October 26, 1977 meeting.

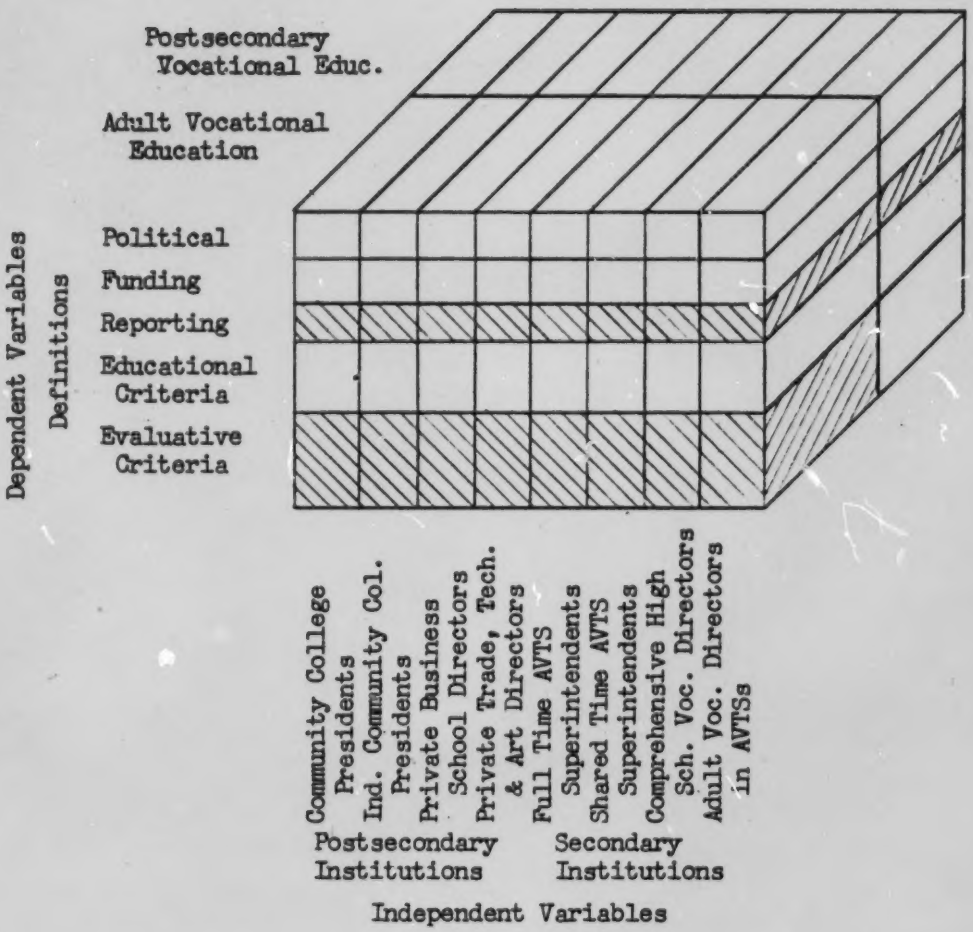

Figure 2

Research Matrix
Full Time Equivalent

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In addition to the information obtained from these group meetings and individual interviews the October 3, 1977 Federal Register contained information to clarify the 1976 Vocational Education Amendments. (See page 15) There was also a movement to develop agreements between community colleges and secondary schools to offer postsecondary vocational programs. Several of these agreements have now been approved and were reported by Dr. T. Edward Hollander, Higher Education Chancellor on October 24, 1977 at the County Career Coordinating Council Conference, North Brunswick, New Jersey.

As a result of the previous work it was decided a mailed questionnaire with the problem statement would be the best means to collect data for the study. (See Appendix) Several decisions were made concerning the questionnaire upon the input previously described. These are:

1. The questionnaire should contain information, definitions, formulas and questions that the respondent could criticize rather than try to create.

2. Definitions and formulas included in the questionnaire should be those which are contained in legislation, statutes, administrative code or Federal Register. Reaction to these legal statements may be more beneficial than reaction to non legal statements.

3. Implications of any of the items should be explained to the respondent.

4. Recent developments at the state and local level should be used to structure the items, e.g., if respondents agree to the definition of postsecondary vocational education given in the questionnaire then the criteria to establish whether a course or program is vocational will be so stated in the written agreement between a community college and secondary institution.

5. Defining program or course is irrelevant to the study. Therefore the term "education" is used and the emphasis is placed on contact hours. Contact hours indicate an exact measure of service and needed funding which are more important than defining program or course. It was concluded that no acceptable definition of program or course could be achieved due to the variability of systems which exist.

6. Criteria should be cited which may provide a more exact measure than definitions.

The instrument shown in the Appendix is the final version. The original instrument was distributed November 21, 1977 at the Area Vocational-Technical School Administrators meeting. The study was also described to the administrators at this time. The participants were asked to examine the instrument, try to answer it if necessary and send their criticisms to the investigator if there were any.

Six persons returned the instruments. There were some typing errors corrected. Adult vocational education was recommended to be underlined. As a result of a conversation with the chairman of the Office of Community Colleges the last question concerning the increase of clock hours from 450 to 500 - 650 was added to the final instrument.

Some of the thought processes that went into the development of the instrument can be found in the Appendix labeled Instrument Development.

SAMPLE FOR MAILED QUESTIONNAIRE

The selection of the sample for the mailed questionnaire within New Jersey was determined by the following criteria:

1. Those institutions offering postsecondary vocational and adult vocational education which the New Jersey Department of Education, Division of Vocational Education must report to the Federal Government.

2. Those institutions offering postsecondary vocational and adult vocational education judged by the program specialists in the New Jersey Division of Vocational Education as having generally achieved the following twelve criteria:

    a. Curriculum of sufficient length to provide students with the development of salable skill/s.

    b. Vocational certification of instructor or equivalent qualifications.

    c. Provides job entry skills and/or upgrading of job skills.

    d. Counseling services provided.

    e. Majority of students pursuing job entry skills and/or upgrading job skills.

    f. Curriculum provided for individual needs.

g. Field/shop/laboratory instruction constitutes the major mode of instruction.

h. Curriculum validated by industrial needs.

i. Guidance services provided

j. Placement services provided.

k. Curriculum contains related classroom instruction to supplement field/shop/laboratory instruction.

l. Equipment and tools are industrial standard.

The sample selected for a mailed survey was:

Presidents, New Jersey Public Community Colleges 18
Presidents, New Jersey Independent Community Colleges 4
Directors, New Jersey Private Business Schools 12
Director, New Jersey Private Trade, Technical, and Art Schools 15
Superintendents, Full Time Area Vocational Technical Schools (AVTS) 8
Superintendents, Shared Time AVTS 12
Directors, Comprehensive High School Vocational Programs 13
Directors, Adult & Evening Vocational Education in AVTS 20

RESULTS

The results of the data collection and the analysis are presented in this section. The number of responses is given first followed by Problems 1, 2, 3 and 4.

RESPONSE

There were 102 individuals divided into eight groups who were sent the mailed questionnaire (see Table 1). Fifty responses were received or 49% returned. It is anticipated several returns will be received from the community colleges. An addendum to this report will be prepared for these.

Follow up telephone calls* to two of the independent colleges revealed that these institutions were highly specialized and saw no connection with the problem and, therefore, no need or desire

*All telephone calls were based on a random selection of institutions who had not responded.

to respond. Follow up calls to four of the business schools revealed no concern with the problems expressed by the study. Five calls to private trade, technical and arts schools revealed answering such questionnaires was low priority. At the time of this writing Senate Bill 409 may have changed this attitude.

Senate Bill 409, allowing contracts between private and local school districts, had not been passed at the time of data collection. It allows these districts to enter into agreements to provide vocational education. The Bill is now passed.

Telephone calls to all persons not responding from the public secondary institutions were made, usually messages were left. Five of the superintendents of AVTSs worked with their adult and evening program director and had sent in one return. No reason is known for the lack of an answer by the other persons, except two who reported no postsecondary or adult programs were offered.

Table 1
Percentage of Returns of Mailed Questionnaire

Respondent	No.	Returns	% of Returns
Presidents, N.J. Public Community Colleges	18	5*	28%
Presidents, N.J. Independent Community Colleges	4	0	00
Directors, N.J. Private Business Schools	12	1	8
Directors, N.J. Private Trade, Technical and Art Schools	15	5	33
Superintendents, Full Time AVTS	8	6	75
Superintendents, Shared Time AVTS	12	8	66
Directors, Comprehensive High School Vocational Programs	13	7	53
Directors, Adult & Evening Vocational Education in Full Time and Shared Time AVTS	20	18	90
Total	102	50	49%

*Returns delayed. An addendum to the report will be prepared later.

Problem 1 - Basic Count for Postsecondary and Adult Vocational Education

To answer question A, Are persons enrolling in two different institutions and, therefore, being counted twice?, the investigator completed a telephone survey to five principals in each of the three types of secondary institutions, full time and shared time AVTS and comprehensive high school. The investigator also questioned the 34 participants of the Teaching Learning Task Force of the Consortium.**The consensus is that an extremely small number of persons are attending two different institutions and that a system to eliminate these from head counts would be prohibitively expensive. One idea originating from this survey plus being expressed by state department personnel was to register students using their social security number. A check on this idea revealed the problem of "invasion of privacy." It would also involve all student registrations being processed by computer in one central location.

Questions B and C concerned defining adult vocational and postsecondary vocational education to eliminate duplication of counting of persons, e.g., enrolled in adult education but also being counted as a postsecondary vocational education students. These questions were stated prior to the October 3, 1977 Federal Register in which the following definitions are given:

> "Adult program" means (for reporting purposes [to the Federal Government]) vocational education* for persons who have already entered the labor market or who are unemployed or who have completed or left high school and who are not described in the definition of "postsecondary program." (Sec. 110(c); 20 U.S.C. 2461) (Federal Register, Vol. 42, No. 191, Part IV, October 3, 1977, 53863)
>
> "Postsecondary program" means (for reporting purposes [to the Federal Government]) vocational education for persons who have completed or left high school and who are enrolled in organized programs of study for which credit is given toward an associate or other degree, but which programs are not designed as baccalaureate or higher degree programs. (Sec. 110(c); 20 U.S.C. 2310) (Federal Register, Vol. 42, No. 191, Part IV, October 3, 1977, 53864)

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*Vocational education is defined in the October 3, 1977 Federal Register on page 53865. The person unfamiliar with the definition should read this reference.

**New Jersey Consortium on the Community College, Inc.

These definitions have been included in the Fiscal Year 1979 Vocational Funding Guidelines and will eliminate persons being counted twice, i.e., being in adult and postsecondary vocational education.

It was also reported in the October 3, 1977 Federal Register that:

Comment: Many commenters suggested adding to the definition of "postsecondary programs" those programs leading to a certificate of completion of hours of study or certificate of completion of a series of courses.

Response: The House Report (H. Rept. No. 95-1085, p. 48) indicates that Congress did not intend that persons working toward certificates of completion should be considered under the definition of "postsecondary programs." ...No change is made in the regulation.

The above definitions were conceived for the purpose of reporting to the Federal Government. This, of course, means the State of New Jersey must follow these definitions in obtaining and supplying the data. It was decided that these definitions should be critiqued by institutions who would supply the data. The critiques might assist state personnel in preparing guidelines for data collection.

The following are critiques/comments which seem representative of the groups sampled for this study concerning the definition of adult vocational education. Please refer to Table 2 which gives a tabluation of respondent's critiques.

Table 2
Definition of Adult Vocational Education

Respondents	Total Returns	Agree	Disagree	Agree With Minor Modifications	Undetermined
Presidents, Comm. Colleges	5	2	1	1	
Presidents, Ind. Comm. Colleges	0	-	-	-	
Directors, Private Bus. Schools	1			1	
Directors, Private Trade/Technical	5	1	2	1	
Superintendents, Full Time AVTS	6	1	1	1	
Superintendents, Shared Time AVTS	8	2		2	1
Directors, Comp. High School	7	2	2	1	
Directors, Adult Education, AVTS	18	10	2	3	1
Totals*	50	18	8	10	2

*Any difference between total returns and total answers is due to a lack of answers by some respondents.

Presidents, Community Colleges

I do not agree with this definition. Many adults pursue course work which carries college credit but they are not seeking a certification or degree. The definition should be revised to eliminate the words "and for which a certificate or diploma may be given" and be revised to include credit college courses, but on a non-matriculated basis.

This is a grey area since credit for work experience, credit by examination and independent study plans exist. All of these have adult education* implications.

*There may be some overlapping in the thinking of educators concerning adult education and adult vocational education.

Director, Private Business School

This is not really appropriate for programs of a year or more that enroll primarily 18 year olds directly from high school. It would be appropriate if the definition were amended to include business schools.

Director, Private Trade, Technical and Art Schools

Adult vocational education should include continuing education courses. Certificate or diploma programs are mainly postsecondary courses and not adult vocational education.

Superintendents, Full Time AVTS

I do not believe this individual must have completed or left high school.

Superintendents, Shared Time AVTS

We need another definition of the adult who attends vocational-technical education full time to learn a trade and enrolls for one year. Or another definition of the part time adult vocational education student.

Everything beyond high school should be postsecondary.

Directors, Comprehensive High Schools

Some courses should be given for a college credit as part of a planned program. The above definition should apply to high school postsecondary programs.

I would agree that college credit would not be awarded adult vocational education programs and courses unless they met the postsecondary requirements.

Directors, Adult Vocational Education AVTS

Adult vocational education could involve individual courses designed to improve or up-date individual job skills (not necessarily an organized program).

...I agree with the definition and I categorize adult vocational education as trade extension courses where a person in a company sees a job posted and it may be an upgrade for them...

To summarize the critique/comments concerning adult vocational education:

1. The majority of educators agreed with the definition.

2. Community colleges offer college credit for most of their adult courses and do not want the definition to exclude these.

3. The question was stated, how persons would be reported who received credit by examination, etc?

4. Another theme in the comments is if a program or course is beyond high school it should be labeled "postsecondary." Evidently the term "postsecondary" has more status than "adult."

5. There is concern about the adult who attends full time for one year in a vocational-technical high school. How should this type of student be counted?

The following are critiques/comments which seem representative of the groups sampled for this study concerning the definition of postsecondary vocational education. Please refer to Table 3 which gives a tabulation of respondents agreeing, disagreeing, agreeing with minor modifications and supplying information which could not be interpreted as agreement or disagreement.

Presidents, Community Colleges

Would non-degree credit vocational courses and programs be classified only as adult education not vocational education?

In the two year community colleges certificate and diploma program are credit [college] courses, but less than two years. We could award non-credit certificates for special courses and programs in vocational education.

I agree with the definition. It clarifies the situation for those individuals pursuing the ladder concept of credentials, e.g., high school diploma, certificate, associate degree and so forth, The definition could include the requirement that participants in postsecondary vocational education have a high school equivalency or be pursuing the equivalency.

The implication is only half true. Programs could operate without signed agreements. These would benefit students least.

Directors, Business Schools

Business schools are excluded in this definition because they are not empowered to award associate degrees, and the Department of Higher Education even objects to offering subjects on a credit hour basis. This definition would probably be appropriate if business schools were given the right to award a vocational degree; otherwise, there should be a reference to programs offered at the 13 and 14 year levels that do not lead directly to a degree.

Table 3
Definition of Postsecondary Vocational Education

Respondents	Total Returns	Agree	Disagree	Agree with Minor Modifications	Undetermined
Presidents, Comm. Colleges	5	3		1	
Presidents, Ind. Comm. Colleges	0	-	-	-	
Directors, Private Bus. Schools	1			1	
Directors, Private Trade/Technical	5		3	1	
Superintendent, Full Time AVTS	6	1	1	1	
Superintendent, Shared Time AVTS	8	2		2	1
Directors, Comp. High School	7	3	1	1	
Directors, Adult Education, AVTS	18	6	5	3	2
Totals*	50	15	10	10	3

*Any difference between total returns and total answers is due to a lack of answers by some respondents.

Director, Private Trade, Technical and Art Schools

Not true - individuals are able to be professionally educated in a skill of a semi-professional nature without regard for degrees of any kind. The above statement implies that vocational education cannot be considered effective without a degree.

This definition completely ignores the private postsecondary section who are unable to grant degrees or college credits in New Jersey.

The postsecondary vocational education definition should include vocational training programs for which a certificate or diploma is given and whose entrance requirements include a High School diploma.

Superintendents, Full Time AVTS

[This definition] should not be limited to work toward a degree. This puts us under the control of Higher Education and the local community college. This definition could cause us to lose Federal funding.

Does not take into consideration the full time day students [adults] in vocational schools.

I agree the course should be accredited. I do not believe the credits must be toward an associate or baccalaureate degree.

Superintendents, Shared Time AVTS

Does not indicate if full time or part time, or are we covering both full time day and part time day or evening in both definitions. This is a new concept as far as I am concerned.

...can we juscify as postsecondary those students who do not complete the associate degree primarily because they entered as one year skill entry level-terminal students with no intention of remaining for the degree?

I have no quarrel with this definition if the New Jersey Division of Vocational Education is also involved in the evaluation of these programs and signed agreements are in effect.

I feel both definitions offer a distinction between adult and postsecondary vocational education. This agreement is essential in order to keep the classifications clear and distinct.

...any secondary institution operating postsecondary programs without a reciprocal agreement with a community college would be in jeopardy of receiving postsecondary funds.

More importantly, persons enrolled in what could be quality programs would in some cases be denied access to these programs. This situation could be corrected, however, if the first sentence were changed to read - means vocational education for persons who have completed or left high school and now are enrolled in an organized program of study for which credit may be given toward an associate or other degree...the word "is" was changed to "may."

Eliminates the one year postsecondary student desiring LPN, beauty culture, etc., who...is not concerned with college credit...

Directors, Comprehensive High Schools

All postsecondary vocational education does not require credit to be worthwhile. Certification of completion and/or licensing serve the purpose for many programs. This definition is too restrictive.

Postsecondary education should be available to those who have completed high school and received a diploma if those persons wish to gain credit toward a....degree. Delete "or left high school."

Directors, Adult Education AVTS

"Credit given toward an associate or other degree" should be struck. To offer vocational education at the college level excludes most people who "left high school"...

[I] do not want this. Financially this could put us in a "bind."

Anyone with knowledge of apprenticeship training programs which are totally vocational and postsecondary could not accept the above definition.

Does not include full time day students [adult] in vocational schools, e.g. practical nursing.

In summary, the remarks concerning postsecondary vocational education by each of the groups have a consistent problem, i.e., mind set and confusion as to the use of the definition. As stated in the Problems section of this report, determining exact numbers of persons and defining FTE are the reasons for the definitions. The critiques are frequently concentrated upon quality of education, loss of autonomy and loss of funding. Perhaps, though, these critiques will alert the reader as to the knowledge and views of persons in the schools.

Items derived from the critiques include these:

1. The definition as stated is approved by the majority of educators, with some minor modifications or clarification.

2. Many persons do not understand the 15% setaside for funding postsecondary and adult vocational education process.

3. Private schools are critical of the New Jersey Department of Higher Education regarding granting degrees.

4. The definition must be clarified for the full time day student [adult] enrolled in vocational schools.

5. "Or left high school" should be omitted and replaced by "or have a high school equivalency or be pursuing the equivalency."

6. Some persons do not understand that what they call "postsecondary" will under this definition be "adult." There is an unwillingness to give up the term post-secondary in describing programs.

Criteria for Postsecondary and Adult Vocational Education

A hypothesis was made in designing the instrument. This was that the majority of educators would approve the definition of post-secondary vocational education.* If so, the agreements between secondary institutions and community colleges or other institutions would be used to specify the criteria for postsecondary vocational education. These agreements would, of course, have to satisfy any legal requirements. (The results have shown a majority of those who replied do approve the definitions.) It was believed that criteria for postsecondary vocational education should be studied later. Therefore, the instrument included only the criteria for determining that any program or course labeled adult vocational education is vocational - not adult education. The FTE formula in the instrument is also for adult vocational education.

Twelve criteria were identified from the result of a search of the literature, Federal and State of New Jersey legislation, the New Jersey Administrative Code, funding guidelines and Departments of Education and Higher Education materials. The respondents were asked to: (1) rank the criteria from 1 through 12 (one being high) and (2) weigh each criterion on a Likert Scale from Non Essential (weight of 5) to Essential (weight of 1).

The results of hand calculations (corrected or different results as a result of a computer check will be added to the report in an addendum if needed) of the ranking scale are shown in Tables 4 and 5. The criteria as analyzed are listed below from 1-12, one being high:

Rank	Criteria for Adult Vocational Education
1	Provides job entry skills and/or upgrading of job skills
2	Curriculum of sufficient length to provide student with the development of salable skills
3	Curriculum validated by industrial needs
4	Curriculum contains related classroom instruction to supplement field/shop/laboratory instruction

*Cited from the October 3, 1977 Federal Register.

Rank	Criteria for Adult Vocational Education
5	Majority of students pursuing job entry skills and/or upgrading job skills
6	Field/shop/laboratory instruction constitutes the major mode of instruction
7	Curriculum provided for individual needs
8	Equipment and tools are industrial standard
9	Vocational certification of instructor or equivalent qualifications
10	Placement services provided
11	Counseling services provided
12	Guidance services provided

The weighing scale was added to determine if any criterion/ia was judged as non essential. Table 6 contains the mean weights given by the different groups to the criteria for adult vocational education. The criteria are given below with their respective weights, i.e., 1 being high and 5 being low:

Mean Weights	Criteria for Adult Vocational Education
1.43	Provides job entry skills and/or upgrading of job skills
1.57	Curriculum of sufficient length to provide students with development of salable skills
1.71	Curriculum validated by industrial needs
2.05	Equipment and tools are industrial standard
2.08	Curriculum contains related classroom instruction to supplement field/shop/laboratory instruction.
2.17	Vocational certification of instructor or equivalent qualifications
2.23	Field/shop/laboratory instruction constitutes the major mode of instruction
2.39	Majority of students pursuing job entry skills and/or upgrading job skills

Mean Weights	Criteria for Adult Vocational Education
2.49	Placement services provided
3.02	Curriculum provided for individual needs
3.05	Counseling services provided

Of the 44 individuals who weighed the twelve criteria six persons weighed four different criteria as being non-essential. Of these six persons, two were community colleges and four from private trade, technical and art schools. Logically the ranking and weighing results should have been exactly the same, but there were variations except for the first three criteria, i.e., job entry skills or upgrading, curriculum of sufficient length and curriculum validated by industrial needs. It was concluded that for an adult vocational education program all criteria are of importance and that for a program and a course the first three criteria are essential.

Problem 2 - FTE Definition

Question A was, has previous research solved this problem of FTE definition? A thorough review of the literature revealed that no research was available on this topic. The answer is no.

The definitions for FTE in other states (question B) are given in the National Survey section of this report. These was certainly no consensus on a definition.

Question C was, is there any consensus by educators in secondary and community colleges on the definition of FTE in New Jersey? To answer this question and to provide some additional information on the subject, information was collected using a mailed questionnaire.

One of the dominant concerns in calculating FTE for vocational education was described by many educators interviewed as a philosophical one. This is the question, what should be the ratio of weight between one hour of classroom learning experience and one hour of field, shop, or laboratory learning experience. [1]

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[1]The greatest concern of the investigator is the mind set persons interviewed seemed to have in confusing an FTE definition with that of faculty load. These are two different areas. The assigning of credits for students is also different from the problem of FTE.

Table 7
Ratio of Classroom - Laboratory Learning Experience

Respondent	Total Returns	Replies to Question	Ratios*				Comments
			1:1	1:2	1:3	1:4	
Comm. Coll	5	5		2	1	1	Do by subject area
Ind. Comm. Coll.	0	-					
Private Bus. Schools	1	1		1			
Private Trade/ Technical	5	3		3			
Full Time AVTS	6	4	1	2			1:1 1/2
Shared Time AVTS	8	5	4		1		
Com. High School	7	5	2		1	1	40% class: 60% lab
Adult Prog.	18	15	8	3	4		
Total	50	38	15	11	7	2	(3 comments)

*Ratio of 1:2 means one hour of classroom instruction to two hours of laboratory/shop/field instruction.

Table 7 shows the answers given by the different respondents. The observation that seems somewhat apparent is that the post-secondary institutions tend to give less emphasis to laboratory instruction than do secondary institutions.

The respondents were asked to critique the FTE formula given in the New Jersey Administrative Code 9:4-3.57, 3 i.e.:

$$\text{FTE} = \frac{\text{Total Student Contact Hours for One Year (12 months)}}{450}$$

Most of the respondents agreed with the formula if it:

1. Was used uniformally for all institutions for funding or
2. Seemed fair for both secondary institutions and community colleges.

Table 8 contains the results of the responses.

Table 8
Agreement/Disagreement with FTE Formula for
Adult Vocational Education

Respondents	Returns	Agree	Disagree	Agree with Alterations	No Answer
Presidents, Comm. Colleges	5	3		2	
Presidents, Ind. Comm. Colleges	0				
Directors, Private Bus. Schools	1	1			
Director, Private Trade/ Technical	5	3		1	1
Superintendents, Full Time AVTS	6	1			5
Superintendents, Shared Time AVTS	8	5			3
Director, Comp. High School	7	3	2		2
Director, Adult Education AVTS	18	14		1	3
Totals	50	30	2	4	14

Some of the respondents critiqued the formula more thoroughly than agreeing on one or both of the two items above. The following quotations lend information which may be used concerning the definition of FTE.

Community College

The formula seems reasonable for non-credit instruction.

The denominator of 450 is the equivalent to 15 hours a week for 30 weeks which a college student may be taking if he or she had all lecture or class work and no laboratories for one full

academic year. The college student with this load should put in a minimum of 45 hours a week of classroom time and study time. Therefore, the formula should not apply to those situations where students do not have a substantial amount of work to do beyond the classroom or laboratory. This work done beyond the classroom and laboratory should require evaluation and grading by the instructor.

This [formula] should have a limit of 1 FTE/student as maximum.

Private Trade, Technical and Art Schools

450 clock hours over 12 months is less than 10 contact hours per week which is not sufficient to provide job entry vocational training.

FTE should be calculated differently for job entry training and upgrading skills.

Full Time AVTS

The superintendents of the full time AVTSs did not critique the formula, except to agree to its use for all levels of institutions for funding purposes.

Shared Time AVTS

[To illustrate one AVTS application of the formula:]

$$\text{Full Time One Year Day Enrollee} = \frac{180 \text{ days} \times 6 \text{ hours}}{450} = 2.4 \text{ FTE}$$

$$\text{Evening School} = \frac{24 \text{ weeks} \times 3 \text{ hours}}{450} = .16 \text{ FTE}$$

$$\text{Apprenticeship} = \frac{24 \text{ weeks} \times 3 \text{ hours} \times 2 \text{ classes}}{450} = .32 \text{ FTE}$$

[Based on these three applications] This seems equitable (450 base) since we are currently operating programs less than 6 hours per day for adults. The present range is 4 to 6 hours. We are beginning to recognize that some trades can be adequately scheduled for maximum efficiency at less than 6 hours per day, but never less than 3 hours per day.

Since the adult vocational program is designed for individuals beyond the secondary level, it seems that the above formula would be most appropriate. However, another alternative formula exists based on secondary school resident equivalency.

$$\text{REE} = \frac{\text{Total Contact Hours}}{1000 \text{ hours}}$$

Based on the current administrative code the 450 hour full time equate equivalent would produce revenues in approximately the same amount as existing funding structures for many districts, while reducing the level for other districts dependent upon actual enrollment. Probably the most appropriate formula would be to equate all programs to the old definition for class A vocational programs requiring three hours of instruction for five days a week for approximately 36 weeks. This would amount to 540 hours or for full time instruction, 1080. This type of calculation however would require the administrative code to be changed for consistency. Based on the current application for community colleges, it is recommended that the 450 hours remain.

Comprehensive High Schools

The above formula is appropriate for determining full time equivalent for adult vocational education. It does not limit the time so that courses that require more time could be developed and approved by the local LEA. The flexibility to extend the minimum requirement is needed.

The above equation being based on a 12 month/year basis seems to be unrealistic and in conflict with the normal secondary and postsecondary 10 month programs.

Adult Vocational Directors, AVTS

This allows for school closing, yet considers a summer quarter.

The following data was obtained from Bergen Community College.

16 hours - Average number of hours a week that a full time student carries.

30 weeks - Number of weeks in academic year.

480 hours - Total full time student hours per academic year.

The following data was obtained from Bergen County Vocational-Technical Schools, Adult Education:

6 hours - Average number of hours a week that an adult student carries.

24 weeks - Number of weeks in an academic year.

144 hours - Total part time student hours per academic year.

Conclusion: Above formula appears to be reasonable inasmuch as there is an approximate 1 to 3 ratio between hours of instruction at the two institutions.

Acceptable for a ten month program, e.g., L.P.N. program operates on twelve month calendar with 1,700 (approximately) contact hours within that period of time.

Based upon an estimated 31,752 contact hours for 441 part time adult vocational students and the present categorical aid formula, the formula would provide for minimum difference in monies received by [their] district.

Assuming that the figure of 450 clock hours approximates a typical annual load for a college student, and the annual hourly apprenticeship requirements approximate 150 hours, three (3) adult vocational student registrations should equal one FTE.

To have the respondents further critique the FTE formula the questions were asked, if the formula above was adjusted so that the 450 was increased to 500, 550, 600 or 650, which of these four denominators, or other number, would be most accurate for determining full time equivalent for adult vocational education? Any reason for this answer? The responses to these questions are in Table 9. The critique and comments concerning these questions follow.

Table 9
Appropriateness of 450 Clock Hours

Respondents	Returns	Same	Less	More	Variable to Curriculum	No Answer
Presidents, Comm. Colleges	5	3			4*	
Presidents, Ind. Comm. Colleges	0					
Directors, Private Bus. Schools	1			1		
Directors, Private Trade/Technical	5	1		2		2
Superintendents, Full Time AVTS	6	2		1		3
Superintendents, Shared Time AVTS	8	4		2		2
Directors, Comp. High School	7	4		2		1
Directors, Adult Education AVTS	18	11		5		2
Totals	50	25	-	13	4	10

*College presidents indicated the different curricula should be examined for possible differences in contact hours as well as indicating 450 seemed reasonable at this point in time.

Presidents - Community Colleges

I would not favor any denominator over 450 as a general rule. But we would need to study instructional time and cost requirements for different courses and programs before deciding. No one factor may work for all types of instruction. 1

The denominator must depend upon the nature of the learning activity. If it is all classroom with significant homework, 450 is reasonable because it reflects full time student status. Full time means a full week's involvement as a student. If the learning activity is primarily laboratory or shop with a small amount of homework, the denominator could be 900. If the laboratory or shop involvement carried with it no homework, the denominator could be even larger.

The average adult vocational education student would spend 25 to 36 weeks per year, 40 hours per week which equals 1000 to 1200 contact hours per year.

Private Business Schools

As a matter of information, the national business school association has traditionally used 900 hours as the basis for a one year post-high school program. This has recently been reduced to 750 hours.

Private Trade, Technical and Art Schools

Our courses run for 1000 hours (clock time). Student and instructor require constant contact in order to fully develop a beginner in the profession who is competent and is able to perform to industry's satisfaction.

A minimum of six months (25 clock hours/week) intense training is necessary for job entry skills with no prior training or knowledge.

Superintendents, Full Time AVTS

In many trade areas, 650 [hours] x 4 [years] represents 2,600 hours of training, which is a bare minimum necessary.

Superintendents, Shared Time AVTS

Six hundred hours are close to the state requirements for cosmetology.

Four hundred fifty hours seems adequate if applied equally to both secondary and community colleges.

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[1]In reference to different types of instruction please refer to the Wisconsin Board Policy Announcement and to the November 10, 1977 memorandum to Dean Herbert Scurzo in the Appendix.

If 2 FTEs* are unacceptable for the 6 hour day adult education or postsecondary student then I would strongly support 900 as the base student contact hour for one FTE. No one should really get too upset over a higher base because the total appropriation divided by whatever figure used to determine the dollar per unit would still equate out the same way.

*Full time one year day enrollee = $\frac{180 \times 6}{450}$ = 2.4 FTE

Directors, Comprehensive High Schools

An increase [in the denominator] is not required and it would be harmful to many programs. Quality of instruction, not quantity, is the most important determinate of success.

Based on our experience in our 10 month/year programs it seems that 600 clock hours would be the most meaningful.

Directors, Adult Education

...somewhere between 450 and 500 is educationally sound.

600 hours, because on a 12 months basis, I feel this gives the latitude for course modifications and adjustments.

Would not increase the number - this would only decrease the FTEs and consequently funding.

Assuming that the 450 figure[1] was arrived at by multiplying a semester average of 15 credit hours of college instruction times 3 clock hours per credit for both semesters (which would result in 120 credit hours over 4 years) and assuming that some colleges

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[1]At present the community college work load data as specified in the New Jersey Administrative Code indicates that a full time student means a student taking 12 or more credit hours of instruction in any one semester. A part time student means a student taking less than 12 credit hours of instruction in any one semester. (9:4-3.57, p. 154-155)

One college credit for classroom teacher-student contact equals fifteen classes fifty minutes in length plus an optional one fifty minute examination. This equals 750 contact minutes per semester for one college credit. For a full time student this would be 12 credits x 750 or a minimum of 9000 minutes (150 hours) *per semester.

One college credit for laboratory, clinic, field or shop contact equals fifteen classes 2 to 3 fifty minute periods per week. This equals a minimum of 1500 minutes (25 hours) to a maximum of 2250 minutes (37.5 hours) per semester for one college credit.

*These are 60 minute hours.

demand between 120 and 140 credit hours for a degree. The figure of 500 would approximate 34 credit hours annually or a total of 136 credit hours for a baccalaureate degree. The yardstick of 3 adult vocational registrations approximately equal one FTE. Any number over 500 would tend to be discriminatory.

Discussion of FTE

Now what does all this information reveal about a definition for full time equivalent? Please recall that this definition is necessary so that a fair measure is available for showing the contact hours considered to be that of a student in full time study.

The investigator found that there are two perspectives to student full time study. First is the student attending class and having independent study. This usually involves one hour of classroom with one to four hours of independent study. The second is laboratory, shop or clinical instruction accompanied by related classroom instruction which may or may not require independent study.

There are two approaches to the ratio of classroom and laboratory instruction. The first ratio would be that based upon the total time the student participates in class, laboratory and independent study. The second would be that time the student has direct contact with the school in classroom and laboratory instruction. It is this second approach which seems the most logical. It is the time that the school invests in direct contact with the student which should be included in the ratio. The amount of independent study is an estimated time and, therefore, unreliable.

The ratio of weight between one hour of classroom learning experience and one hour of field, shop or laboratory experience should, therefore, be 1:1. To say that one type of instruction is better than the other is misleading because each is a different mode of instruction designed to achieve different goals. And who has the wisdom to say which type of knowledge is greater than another? Or can one really say that a physics laboratory is more important than an electrical or machine or computer programming or automotive laboratory? To do so reveals intellectual and/or educational snobbery.

This 1:1 ratio is consistent with the formula numerator, total student contact hours for one year (12 months), which does not distinguish between types of instruction. It must be noted that should the FTE definition be used for funding purposes the contact hours would have to be reported separately for the different types of instruction in order to adjust for differences in costs.

It is recommended that the different postsecondary and adult education areas be examined to determine the time and cost expended for each. Areas such as licensed practical nurse and cosmetology have specific hours required that could be used for their FTE denominator. Should there be an adjustment in the formula to account for full time adult students? Most adult vocational education consists of part time students.

A more rigorous examination of contact hours for adult vocational education should be completed. But there is sufficient evidence collected for this study to indicate that 650 contact hours, as indicated in the Tornell and Koo formula, would be realistic and fair.

Problem 3
Equating FTE for Postsecondary and Adult Vocational Education In Secondary and Higher Education Institutions

Problem 3 exists because the secondary institutions and community colleges use different systems of assigning credit (college credit and contact hours, etc). If the state requires both types of institutions to report based on contact hours as discussed previously in this report no conversion factor is needed.

Problem 4
Apportioning Funds

This problem could not be worked on during this project because of limited time. However, it is believed that the critiques and comments given in this report will assist anyone pursuing this problem.

Summary and Conclusions

Due to Federal and state legislation there has developed a situation of confusion regarding the establishment, maintenance and supervision of postsecondary and adult vocational education, in particular, where a division of higher education and a division of vocational education exists in a state. This problem is not unique to the State of New Jersey.

Four problems were identified for this study:

1. An inadequate data system to determine the exact numbers of different persons enrolling in postsecondary and adult vocational education.

2. An inadequate definition to determine the full time equivalent (FTE) of postsecondary and adult vocational students in education conducted by secondary institutions and community colleges.

3. No formula for equating the FTE for postsecondary and adult vocational education enrollment at secondary institutions with those data produced for postsecondary and adult vocational education at community colleges.

4. An inadequate system to assist in apportioning funds fairly to those institutions sponsoring postsecondary and adult vocational education.

For each problem, questions were stated in order to assist in collecting data that could potentially be used to solve each problem.

Problem One

For Problem 1 there were three questions:

A. Are persons enrolling in two different institutions and, therefore, being counted twice?

It was found via a telephone interview that insignificant numbers of students are enrolling in two institutions at once. A central computer system in which all students registering would have to be recorded was suggested - but this would be expensive. Using student social security numbers to register would be an "invasion of privacy."

B. What is a definition of adult vocational education which would eliminate duplication in counting?

The October 3, 1977, Federal Register contains a definition which was included in the Fiscal Year 1979 Vocational Funding Guidelines which should eliminate persons being counted in both postsecondary and adult vocational education.

Eight groups of institutions were asked to critique the definition of adult vocational education given in the Federal Register. Findings from the critiques include:

1. The majority of educators agreed with the definition.

2. Community colleges offer college credit for most of their adult courses and do not want the definition to exclude these.

3. The question was stated, how persons would be reported who received credit by examination?

4. Another theme in the comments is if a program or course is beyond high school it should be labeled "postsecondary." Evidently the term "postsecondary" has more status than "adult."

5. There is concern about the adult who attends full time for one year in a vocational technical high school. How should this type of student be counted?

C. What is a definition of postsecondary vocational education which will eliminate duplication in counting?

The October 3, 1977 Federal Register contains a definition which was included in the Fiscal Year 1977 Vocational Funding Guidelines which should eliminate persons being counted in both postsecondary and adult vocational education.

Eight groups of institutions were asked to critique the definition of postsecondary vocational education given in the Federal Register. Findings derived from the critiques include:

1. The definition as stated is approved by the majority of educators, with some minor modifications or clarifications.

2. Many persons do not understand the 15% setaside for funding postsecondary and adult vocational education process.

3. Private schools are critical of the New Jersey Department of Higher Education regarding granting degrees.

4. The definition must be clarified for the full time day student [adult] enrolled in vocational schools.

5. "Or left high school" should be omitted and replaced by "or have a high school equivalency or be pursuing the equivalency."

6. Some persons do not understand (or refuse) that what they call "postsecondary" will under this definition be "adult." There is an unwillingness to give up the term postsecondary in describing programs.

In addition to the critiques of the definition of postsecondary and adult vocational education, the respondents from the different institutions were asked to rank and weigh twelve criteria pertaining to adult vocational education and to critique an FTE formula for adult vocational education.

The ranking and weighing data showed three priority criteria to be exactly the same, i.e.,

1. Provides job entry and/or upgrading of job skills

2. Curriculum of sufficient length to provide students with development of salable skills

3. Curriculum validated by industrial needs.

It was concluded that for an adult vocational program all twelve criteria are of importance and that for a program and a course the first three criteria, given above, are essential.

Problem Two

Problem 2 also had three questions to be answered.

A. Has previous research solved this problem [definition of FTE]?

   A thorough review of the literature revealed no research was available on this topic.

B. What are the definitions for FTE used in other states?

   A national survey of directors of vocational education resulted in seventeen states replying. Of these only six seemed to have information pertaining to the study. Refer to the section titled National Survey of State Directors of Vocational Education for an explanation of their formulas. There was no consensus on a definition for FTE for postsecondary and adult vocational education.

C. Is there consensus by educators in secondary institutions and community colleges on the definition of FTE in New Jersey?

   The respondents were asked to critique the FTE formula given in the New Jersey Administrative Code 9:4-3.57,3iv for adult vocational education:

$$\text{FTE} = \frac{\text{Total Student Contact Hours for One Year (12 months)}}{450}$$

The majority of the respondents agreed with the formula if it:

1. Was used uniformly for all institutions for funding or
2. Seemed fair for both secondary institutions and community colleges

There was, however, no consensus.

The respondents were also asked to answer the question: What should be the ratio of weight between one hour of classroom learning experience and one hour of field, shop, or laboratory learning experience? This question pertained to both postsecondary and adult vocational education.

The investigator concluded that the ratio of weight should be time which the school invests in direct contact with the student which excludes student independent study. The ratio of weight was cited as 1:1 being most appropriate which is consistent with the formula given in the New Jersey Administrative Code.

To accurately define what an FTE student in adult vocational education is for a 12 month period for different curricula, it is concluded that the contact hours* for the denominator be:

Apprenticeship - 144 contact hours, assuming the person is fully employed

Beauty Culture (public schools) - 1,000 contact hours (495 hours of related instruction and 505 hours of clinical practice) (Laws of N.J. Sec. 45:-A-10.)

Beauty Culture (private schools) - 1,200 contact hours (600 contact hours each of related and clinical instruction) (NJSA 45:4A-13 Cpt. 28)

Licensed Practical Nurse - 1,700 contact hours (680 hours of related instruction and 1,020 hours of clinical instruction)

Part-Time Evening Adult Vocational Education - 540 contact hours

Shared-Time Day Adult Vocational Education - 540 contact hours

Full-Time Day Adult Vocational Education - 1,080 contact hours.

And, last, more data on contact hours for adult and postsecondary vocational programs need to be collected to determine precise FTE for the different curricula.

*Contact hours are 60 minute hours.

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New Jersey State Plan for the Administration of Vocational Education 1977-1982. State of New Jersey: Trenton, Department of Education, Division of Vocational Education, May 6, 1977.

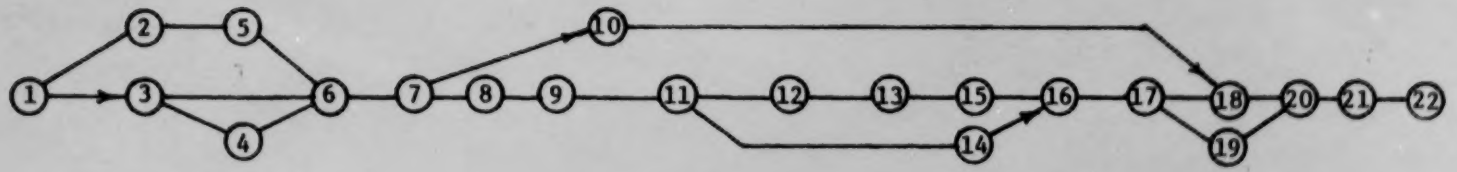
Public Law 94-482, October 12, 1976 "Educational Amendments of 1976" Title I - Vocational Education.

Regulations and Standards for New Jersey Community Colleges, Trenton, New Jersey: Office of Community College Programs, Department of Higher Education, State of New Jersey, September 1973.

Robertson, B. and Katz, A. - Faculty Ratio Study. New Jersey: New Jersey Department of Higher Education, October 1973 (Rev. 1).

School Finance in New Jersey: Past Patterns and Present Possibilities in 7th Annual Report. State of New Jersey: Economics Policy Council and Office of Economics Policy, August 1974.

APPENDIX



1. Begin project
2. Computer search
3. Determine information sources, people/ agencies
4. Interview sources, personel interview and via telephone
5. Review of literature
6. Plan of action
7. Presentation to State Department of Education officials
8. Revisions to plan
9. Prepare interview schedule
10. National survey of state directors of vocational education - postsecondary and adult vocational education
11. Interview New Division of Vocational Education personnel and random sample of persons in institutions throughout the State
12. Prepare instrument
13. Pilot instrument
14. Select sample
15. Revise instrument
16. Final survey
17. Follow-up on respondents
18. Synthesize information on definitions
19. Conduct statistical tests
20. Prepare first draft
21. Distribute draft to Department of Education and Department of Higher Education
22. Prepare final report upon receiving feedback from the Departments

Wisconsin Board of Vocational, Technical,
and Adult Education
4802 Sheboygan Avenue, 7th Floor
Madison, Wisconsin 53702

Eugene Lehrmann, State Director

POLICY ANNOUNCEMENT 77-22

Procedures for Assigning Credits to the Instructional and Field/Community Services Activities

February 1, 1977

To the District Directors
Wisconsin Vocational, Technical,
and Adult Education

Dear Colleague:

The Wisconsin Board of Vocational, Technical and Adult Education adopted a policy on December 2, 1975, in compliance with Chapter 39 Laws of Wisconsin 1975, which required the assignment of credits to all courses offered in the VTAE system. The policy was effective on July 1, 1976, and included the 1976 summer session. The policy and procedures were set forth in Policy Announcement 76-10, dated January 30, 1976.

Policy Announcement 76-10 recognized that three (3) separate and different types of credit are necessary to adequately describe the unique offerings and combinations of teaching methods employed in the system. The policy further recognized the various levels of ability, learning styles, degrees of accomplishment, and unique combinations of cognitive and manipulative abilities that exist in a variety of settings.

Since these variables do exist, it is imperative that assurances and safeguards be built into the system to accurately measure and assign credits consistently. For example:

When credits vary between what appears to be similar courses, assurance will exist as to reasons for differences, such as:

1) One course offering more laboratory, shop, or clinical experience than the other.
2) One course requiring more independent student effort because of different application of theories learned.
3) Objectives of a course or program varying due to occupational needs within a district.

The outcome of this review of courses and programs is expected to create a consistent structure that will place desirable and equitable parameters on credit assignments. These parameters will assure the student and the public that comparable student efforts across the state will generate basically the same weighting and credit awarded for student effort expended.

This replaces the cover letter of
Policy Announcement 77-22 (Feb. 1, 1977)
February 21, 1977

Procedures for Assigning Credits to
the Instructional and Field/Community
Services Activities

February 1, 1977

Program and course structure parameters will be developed with the assistance of representative program advisory committees. Such committees, by virtue of current and relevant professional, management, and labor experiences, are in a position to provide guidance for development of course content.

A semester is considered to be eighteen (18) weeks regardless of actual district schedule. Quarters are prorated on the basis of semesters.

Credits for required courses shall not be used interchangeably between program levels (Associate Degree, Vocational, and Continuing Education). Students may have the option (but shall not be required) to enroll in a higher level of comparable courses regardless of credit. This does not apply to the technical education (32 credits) part of the required technical course requirement section in the Associate Degree guidelines, nor to the eighty percent of the occupational instructional area as noted in the vocational program guidelines.

The attached guidelines identify the various types of credit and the computation involved in assigning credits. Specific standards for Associate Degree, Vocational, and Continuing Education Credits have been developed.

We would bring to your attention that this Policy Announcement supersedes Policy Announcement 76-10 and its addendums that relate to courses in the WBVTAE system.

Sincerely,

Eugene Lehrmann

Eugene Lehrmann
State Director

EL:GRK:dlv

This replaces the cover letter of
Policy Announcement 77-22 (Feb. 1, 1977)
February 21, 1977

ATTACHMENT I
POLICY ANNOUNCEMENT 77-22

ASSOCIATE DEGREE PROGRAM GUIDELINES

Associate Degree programs require a minimum of 64 semester credits. The distribution of course credits will vary according to the type of degree program.

(1)	Technical Course Requirements 43-47	
	a. Technical Education	32 credits
	b. Technical Supportive	11-15 credits
(2)	General Education	15 credits
(3)	Electives	6 credits

I. Technical Education Course Requirements - 43-47 credits

a. Technical education courses are those program elements which contain instruction directly related to a specific technician occupational area. (i.e., those skills/knowledges that a person must possess to function as a technician.

Thirty-two (32) credits are the minimum acceptable number within each Associate Degree program. Twenty-four (24) credits are identified on recommendations by state or regional advisory committees and the business and/or industry in cooperation with the state staff consultant. Eight credits (8) which must have the same technical objective may be recommended by the local advisory group in cooperation with local industries and technical instructional staff.

b. Technical Supportive - 11 credits required for 64 credit curriculum
- 15 credits required for 68 credit curriculum

These are the specific courses which support and relate to the technical content of the occupational courses. The content provides the tasks (ex: scientific principles and laws) needed for the individual to function at an acceptable level within the technical occupational courses.

Ex: Math - Physical Science - Biological Science - Behavioral Science, etc.

Ex: Service Technician program may require 11 credits of technical related based on 5 credits in Technical Mathematics and 6 credits in Technical Science.

NOTE: Programs requiring licensure or certification requirements will be adjusted to meet those standards.

II. General Education

Fifteen (15) credits are required. Six (6) of the credits will be in the Communicative Skills. Nine (9) of the credits will be in the Social and Behavioral Sciences with a minimum of three (3) credits in either of the areas. The local school general and technical education staff will determine type of content within the fifteen (15) credits with the cooperation of the local or state (equivalent) advisory committee and consultant representing the State Board.

III. Student Electives

The electives must reflect the broad occupational goal of the student's elected program area and be the choice of the student; however, the course offerings will be limited to the approved program offerings of the district.

ASSOCIATE DEGREE CREDIT

Standard for Associate Degree Credit

The accepted system is to grant one (1) credit for three (3) hours of study per week per semester whether in classroom, clinical, laboratory, assigned outside study, or any combination thereof that equates to fifty-four (54) hours of student energy for any given semester. Exceptions to this rule will be classified in Types C, D, and E that follow. It should be noted that in these three (3) types the intensity of the educational program is diminished in lieu of the rote work experience.

For the purpose of calculating credits the varied instructional approaches will be grouped into five (5) types. The type of instruction will be the standard by which credit is determined.

Type A: Classroom Presentations

1. Specifically planned learning objectives and activities
2. Direct instructor involvement (continuous)
3. Generally On-Campus utilizing scheduled space
   a. Presentations by instructor
   b. Demonstrations
   c. Discussion

Instructor-student contact: 1 potential hour of instruction per week per semester equals 1 associate degree credit.

Student outside effort: 2 hours for each potential hour of instruction per week.

Type B: On-Campus Laboratory, Selected Clinical, Extended Laboratory and/or Shop Experiences

1. Specifically planned learning experiences based on identified objectives.
2. Direct instructor involvement - ongoing supervision.
3. On- or Off-Campus Scheduled Space.
   a. Demonstration
   b. Practice and/or skill development

Instructor-student contact: 2 or 3 potential hours of instruction per week per semester equals 1 associate degree credit.

Student outside effort: 1 hour for each 2 potential hours of instruction per week or zero hours for each 3 potential hours of instruction.

Type C: Simulated or Actual Occupational Experiences

1. Broadly planned learning experiences.
2. Minimum of once a week supervision and evaluation by instructor.
3. On- or Off-Campus Scheduled Space.
   a. Practice and/or skill development

Instructor-student contact: 4 potential hours of occupational experience per week per semester equals 1 associate degree credit.

Student outside effort: None.

Type D: Structured Field Experience

1. Programs of work with specifically planned learning experiences identified jointly by instructor, employer, and student.
2. Supervision of work performance by the employer and periodic supervision by instructional persons from educational institution.

3. Generally Off-Campus

   a. Nonscheduled space

   b. Practice and skill development generally with student-employee remuneration.

Instructor-Coordinated Experience: 6 hours of field experience per week per semester equals 1 associate degree credit.

Student outside effort: None.

Type E: On-the-Job Experience (Limited Selected Programs)

1. Programs of work with nonspecified learning experiences.

2. Supervision of work performance by the employer and minimal supervision by instructional personnel.

3. Off-Campus

   a. Nonscheduled space

   b. Practice and skill development generally with student-employee remuneration.

Instructor-Coordinated Experience: 8 hours of job experience per week per semester equals 1 associate degree credit.

Outside student effort: None.

DEFINITIONS

ASSOCIATE DEGREE

The Associate Degree is a degree conferred upon students who complete a technical level educational program of at least two years that is complete in itself, but shorter than that leading to a Bachelor Degree. The Associate Degrees granted by the VTAE system are delineated into four (4) types, each with its own specific emphasis.

Associate in Applied Arts Degree: A degree conferred upon students who complete an approved occupational program at the technical level in the application of skills and understandings according to aesthetic and/or behaviorial principles to the design and performance of useful objects or activities. (Or to the design and construction of useful objects.)

Associate in Applied Science Degree: A degree conferred upon students who complete an approved occupational program at the technical level in

the application of scientific laws and knowledge to practical ends.

Based on these definitions and the mission of the VTAE system, the Associate of Arts Degree and the Associate of Science Degree as defined here would be offered in the VTAE districts[1] that have authority from the State Board to offer College Parallel programs.[2]

Associate in Arts Degree: A degree conferred upon students who complete an approved College Parallel program in the liberal or fine arts.

Associate in Science Degree: A degree conferred upon students who complete an approved program at the technical level dealing with accumulated and accepted knowledge that has been systematized and formulated with reference to the discovery of general truths or the operation of general laws.

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[1]Madison Area Technical College; Milwaukee Area Technical College; and Nicolet College and Technical Institute.

[2]Does not apply to the other districts.

VOCATIONAL PROGRAM GUIDELINES

Each vocational diploma program will identify objectives and develop parameters based on a minimum of 25-30 hours per week of contact time with a minimum of 80% in the occupational instructional area. Thirty (30) vocational credits equate to a potential thirty-six (36) week full-time program.

General Education or supportive related courses may occupy up to 20% of the 25 to 30 hours of instructional time. The district general education division staff should work closely with the district occupational division in the development of the total program.

A semester is considered to be eighteen (18) weeks regardless of the actual district schedule.

Student Electives. The electives must reflect the broad occupational goal of the student's elected program area and be the choice of the student; however, the course offerings will be limited to the approved program offerings of the district.

VOCATIONAL CREDIT

Standard for Vocational Credit

Forty-five (45) hours of student energy should be expended for one (1) vocational credit. This equates to an average work week in industry plus outside study. Fifteen (15) vocational credits per semester equates to a full-time load. Exceptions to this rule will be classified in Types C, D, and F that follow. It should be noted that in these three (3) types the intensity of the educational program is diminished in favor of the rote work experience.

For the purpose of calculating credits the varied instructional approaches will be grouped into five (5) types. The type of instruction will be the standard by which credit is determined.

Type A. Classroom Presentations

1. Specifically planned learning objectives and activities.
2. Direct instructor involvement (continuous)
3. Generally On-Campus
   a. Presentations
   b. Demonstrations
   c. Discussion

Instructor-student contact: 2 potential hours of instruction per week per semester equals 1 vocational credit.

Student outside effort: 1/2 hour for each contact hour per week.

Type B: In-School Laboratory, Selected Extended Laboratory and/or Shop Experiences

1. Specifically planned learning experiences based on identified objectives.
2. Direct instructor involvement - ongoing supervision.
3. On- or Off-Campus
   a. Demonstration
   b. Practice and/or skill development

Instructor-student contact: 2 potential hours of instruction per week per semester equals 1 vocational credit.

Student outside effort: 1 hour for 3 contact hours per week.

Type C: Simulated or Actual Occupational Experiences

1. Broadly planned learning experiences.
2. Minimum of once a week supervision and evaluation by instructor.
3. On- or Off-Campus
   a. Practice and/or skill development

Instructor-student contact: 4 hours of occupational experience per week per semester equals 1 vocational credit.

Student outside effort: No requirement for outside student effort.

Type D: Structured Field Experience

1. Programs of work with specifically planned learning experiences identified jointly by instructor, employer, and student.

2. Supervision of work performance by the employer and periodic supervision by instructional persons from educational institution.

3. Generally Off-Campus

   a. Nonscheduled space

   b. Practice and skill development generally with student-employee remuneration.

Instructor-Coordinated Experience: 6 hours of field experience per week per semester equals 1 vocational credit.

Student outside effort: None.

Type E: On-the-Job Experience (Limited Selected Programs)

1. Programs of work with nonspecified learning experiences.

2. Supervision of work performance by the employer and minimal supervision by instructional personnel.

3. Off-Campus

   a. Nonscheduled space

   b. Practice and skill development generally with student-employee remuneration.

Instructor-Coordinated Experience: 8 hours of job experience per week per semester equals 1 vocational credit.

Outside student effort: None.

DEFINITIONS

VOCATIONAL

Vocational Diploma: A document of recognition granted to a student for successful completion of an approved vocational education program as measured by vocational credits.

Vocational Certificate: A document of recognition which may be granted to a student for successful completion of a portion of an approved vocational program or for completion of an approved occupational program with less than minimum program requirements.

This replaces Page 8 of Policy Announcement 77-22 (Issued February 1, 1977)
February 21, 1977

CONTINUING EDUCATION GUIDELINES

Credits for continuing education activities are based on fractions or multiples of forty (40) potential hours of student/teacher instruction.

CONTINUING EDUCATION CREDIT (CEC)

Standard for Continuing Education Credit

Credit shall be computed and rounded to the nearest .05 credit. The smallest possible credit that shall be assigned is .05.

TABLE I (Continuing Education Credit (CEC) Computation Table) will assist District personnel in assigning credits to Continuing Education activities.

TABLE I

CONTINUING EDUCATION CREDIT (CEC) COMPUTATION

Hours	CEC	Hours	CEC
0-2	.05	21-22	.55
3-4	.10	23-24	.60
5-6	.15	25-26	.65
7-8	.20	27-28	.70
9-10	.25	29-30	.75
11-12	.30	31-32	.80
13-14	.35	33-34	.85
15-16	.40	35-36	.90
17-18	.45	37-38	.95
19-20	.50	39-40	1.00

DEFINITIONS

CONTINUING EDUCATION CREDIT (CEC)

Attendance Certificate: A document of recognition granted to a student for attendance in a continuing education course where attendance requirements of the district have been met.

Certificate of Completion: A document of recognition granted to a student for successful completion of a prescribed occupational course or group of prescribed occupational courses with designated associate degree, vocational, or continuing education credits.

NOTE: Continuing Education Unit

The Continuing Education Unit (CEU) is a measurement of the educational effort of the student, based upon nationally established criteria. VTAE districts may, at their discretion, designate and award certificates of attainment in adult education measured in CEU's.

dlv

OFFICE OF THE DEAN
OF INSTRUCTION
NOV 14 1977

MEMORANDUM

ESSEX COUNTY COLLEGE

TO: Herbert E. Scuorzo

FROM: Louis D. Genovese, Jr. Louis D. Genovese Jr.

SUBJECT: Formula for Post Secondary Vocational Education

DATE: November 10, 1977

My office is in receipt of your memo dated November 1, 1977 requesting input on the above subject.

I believe that Post-Secondary Vocational Education programs can be funded in one of three ways:

1. The fixed support amount presently paid by the State at $700 per FTE. The Department of Higher Education for 1978-79 has recommended to the Board of Higher Education that a $25 inflation adjustment be provided so that the proposed FTE amount will be $725. At the present time, State support represents approximately 30% of the College budget.

2. Differential funding. This method will provide program support to institutions based on its costs for various levels of programs. Program levels at county colleges can be divided into four categories.

1. Liberal Arts/Career Non-Tech
2. Technical/Career Tech.
3. Basic Skills - Remedial
4. Non Credit Community Programs.

The most costly would be Technical, followed by Basic Skills.

Recently, the Financial Policy Committee and the Department of Higher Education worked jointly on the differential funding concept. This concept evolved into a funding formula which was presented to the Board of Higher Education in September 1977. The formula to be funded fully would increase funding by 25% over the levels of 77 78. Because of its impact, the plan is under study by the Board.

Based on my review of our program costs for Liberal Arts/Career Non-Tech, I have selected a mid point cost of about $2,200. The Technical/Career Tech level would be higher at about $2,800.

3. Average institutional cost per FTE. This method would average out all programs at the College by distributing the total educational and general expenditures among the institution's FTE's. Our FTE cost per student for 1976-77 was approximately $2,200. In 1975-76 it was $1,813.

The ideal support structure for our institution would be:

1.	State	50%
2.	County	25%
3.	Tuition & Other	25%

Method number one does not recognize this as the State support is about 30%.

To achieve 50% State support in method two, the FTE support would be $1,100 for Liberal Arts/Career Non Tech and $1,400 for Technical/Career Tech.

The compution of an FTE will be in accordance with the language in the Administration Code. Of course, the institution cannot use these FTE's to satisfy the allocated FTE amount from the Department of Higher Education as these are separately funded.

I would support the methods which best approximates our program cost. This would be method number two.

Should you need any additional information or require a clarification, please call me.

kmt.

10/5/77

FULL TIME EQUIVALENT

Definition/Formula for Post-Secondary/Adult Vocational Education

Instrument # 1 - INTERVIEW SCHEDULE

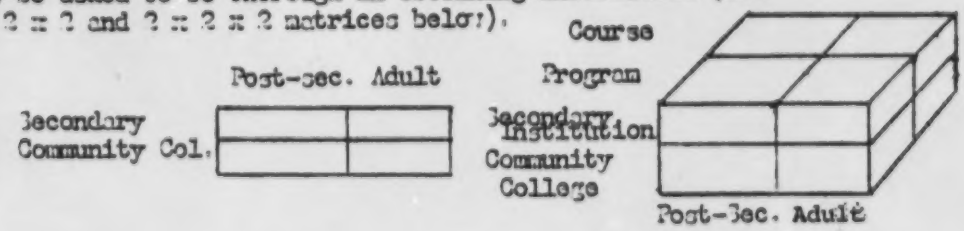
Respondent _____
Bureau _____
Project Area _____
Date _____

Directions: Before providing the information requested in this instrument read the Problem Statement for the study. Then proceed to the instrument itself. Please note that the instrument begins with basic questions which will provide data for all four objectives of the study. Then the instrument contains a restatement of each problem and the appropriate questions and requests for information.

The questions are given in a sequence so the respondent can build upon previous definitions and discussion. Read the entire instrument before beginning to complete the instrument.

Remember this study is focused upon those post-secondary vocational and adult vocational education programs conducted by secondary institutions and community colleges.

Some questions seem repetitious but are not because two terms (post-secondary and adult) and two institutions (secondary and community college) are involved. From four to eight questions must be asked to be thorough in obtaining information (see the 2 x 2 and 2 x 2 x 2 matrices below).



There are two perspectives a person might take in answering the questions, i.e., for funding purposes and for education purposes. You are asked to answer for funding purposes. If you choose to write answers for educational purposes in order to achieve answers for funding purposes, please note which parts of your answers pertain to educational purposes.

You can write on the back of the instrument sheets and/or on other paper. In either case use the code number given for each item.

Please contact the investigator on any problems you may have.

(Charles Doty Phone 2-9372 or 301-230-1730)

INTERVIEW SCHEDULE

Basic Questions

1.1 State the definition for a postsecondary vocational program. [Please specify if this is your definition, Bureau definition, state administrative code, state law or Federal law. Do this for each definition throughout this instrument.]

1.2 State the definition for a postsecondary vocational course.

1.3 State the definition for an adult vocational program.

1.4 State the definition for an adult vocational course.

1.5 Define an avocational program.

1.6 Define an avocational course.

1.7 Should a vocational program include non vocational courses? (For example, organic chemistry required for an agriculture program.)

1.7.1 State rational for 1.7.

1.8 State the definition for a post-secondary vocational program offered by a secondary institution.

1.9 State the definition for a post-secondary vocational program offered by community college.

1.10 State the definition for an adult vocational program offered by a secondary institution.

1.1.1 State the definition for an adult vocational program offered by a community college.

1.1.2 State the definition for a postsecondary vocational course offered by a secondary institution.

1.1.3 State the definition for a postsecondary vocational course offered by a community college.

1.1.4 State the definition for an adult vocational course offered by a secondary institution.

1.1.5 State the definition for an adult vocational course offered by a community college.

Problem 1 Exact count of different persons enrolling in post-secondary and/or adult vocational education.

2.1 Should an exact count of persons enrolled in postsecondary and/or vocational education also include those persons in avocational programs/courses?

2.1.1 State rationale for 2.1

2.2 When should attendance be taken to determine an exact count for a program and/or course?

2.3 Identify problems to be solved to determine the number of different persons enrolling in postsecondary/adult vocational programs in secondary institutions and community colleges. (Specify the programs in which the problems exist.)

2.4 Cite any potential solutions for the above problems.

2.5 Cite any attempts that have been made to obtain an exact count that have been tried successfully and unsuccessfully.

Problem 2 A definition and/or formula for a full time equivalent student (FTE).

3.1 Should persons enrolled in avocational programs/courses be included as a component of FTE for vocational education?

3.1.1 Rational for 3.1.

3.2 State any criteria (written or unwritten) established for determining a full time student for postsecondary vocational education.

3.3 State any criteria established for determining a full time student for postsecondary vocational education at community colleges (written or unwritten).

3.4 State any criteria (written or unwritten) established for determining a part time student for adult vocational education at secondary institutions.

3.5 State any criteria (written or unwritten) established for determining a part time student for adult vocational education at community colleges.

3.6 What <u>should</u> <u>be</u> the definition for a full time student for postsecondary vocational education by secondary institutions?

3.7 What should be the definition for a full time student for adult vocational education conducted by secondary institutions?

3.8 What should be the definition for a part time student for a postsecondary vocational education conducted by secondary institutions?

3.9 What should be the definition for a part time student for adult vocational education conducted by secondary institutions?

Problem 3 Equating the FTE calculated for postsecondary and adult vocational programs.

4.1 How should one laboratory hour class (laboratory in school, cooperative education and apprenticeship) be weighted to one hour of non laboratory class (academic class or related class)? This weighting should be given for funding purposes and academic/educational purposes.

	Funding	Educational
Non Laboratory	1	1
Laboratory in school		
Cooperative education		
Apprenticeship		

A weighting of one has been given to the non-laboratory class as a base.

4.2 When should attendance be taken to determine an FTE in postsecondary and/or adult vocational education programs/ courses?

4.3 A listing is requested of all postsecondary and adult vocational programs offered at the secondary institutions and community colleges in the project area. Do not restrict the list to those receiving Federal funds. You are to give those programs which you funded this year, those that applied for funding but did not receive funding and other (meaning those programs which exist but have not received and/or applied for funding). Please use separate sheets for each type of school, e.g. community colleges. [See attached form]

Problem 4 Matrix and/or formula for appropriately apportioning funds.

5.1 Describe problems in funding specific programs. Give the name of the program and location. This also includes funding policy problems at the state department level.

5.2 What factors should be used in a funding formula/matrix, e.g., unemployment in county.

Program/ Course Title	Adult	Post-Sec	Full Time Student	Part Time Student	Evening	Day	Class	Lab	Length in Weeks	No. Meetings per week	Length per Meeting		Total Time	School	Funded	Applied	Other	Name of School
											Min	Hours						

1. Types of Labs
   1. In school lab
   2. Cooperative
   3. Apprenticeship

2. Types of schools
   A Community College
   B Technical Institute
   C Full Time AVTS
   D Shared Time
   E Comprehensive high School
   F Private School

Full Time Equivalent Formula (FTE)

Much thought, prior to this study, concerning FTE had been done by members of the New Jersey Division of Vocational Education. The last result of that work was reported by Dr. Po-Yen Koo and Dr. Henry Tornell on 2/18/75.

A formula for FTE is developed as follows:

$$FTE^{*} = \frac{H \;\&\; R^{\#}}{650}$$

where H = Hands on instruction in field, shop, clinic or laboratory) in min/week
R = Related instruction in min/week

* If FTE is greater than 1 count as 1.
\# If R exceeds 250, enter 250.

The rationale for this formula is that a full time vocational student is "one who is enrolled in a course or series of courses for a weekly minimum of 650 minutes, of which a minimum of 400 minutes must be actual hands on skill development.

December 7, 1977

Mr. Earl Mahaffey, Director
Adult Education
Camden County A.V.T.S.
Box 566, Berlin-Cross Keys Road
Sicklerville, New Jersey 08081

Dear Mr. Mahaffey:

As you probably know, the definitions of post-secondary vocational education, adult vocational education and full-time equivalent (FTE) have not been clarified. Attached to this letter is a problem statement concerning these definitions and an instrument which you have the opportunity to complete.

Please read the problem statement before proceeding to the instrument. The instrument is designed to obtain your insight concerning these definitions. Hopefully, the data from this instrument will help solve the first three problems cited in the problem statement.

Charles R. Doty, on sabbatical from Rutgers University, is working at the New Jersey State Division of Vocational Education on this study. Please mail the instrument to him at his home address, which is given on the instrument, by December 20, 1977.

Sincerely,

William Wenzel, Ed.D.
Assistant Commissioner of Education
Division of Vocational Education

WW/HT/dm/H309

Attachment

Full Time Equivalent (FTE)
and
Definitions for Post-Secondary Vocational Education
and Adult Vocational Education

In Public Law 94-482, October 12, 1976, Title 1 - Vocational Education, Part A, Subpart 1, Sec. 110 (c), the following provision is made for national priority programs.

> For each fiscal year, at least 15 per centum of each State's allotment under section 103 shall be used to pay 50 per centum of the cost of vocational education for (1) persons who have completed or left high school and who are enrolled in organized programs of study for which credit is given toward an associate or other degree, but which programs are not designed as baccalaureate or higher degree programs, and (2) persons who have already entered the labor market, or are unemployed, or who have completed or left high school and who are described in paragraph (1).

Prior to the passage of the Federal Law 94-482 debate on the appropriate size of setaside produced several papers. The American Association of Community and Junior Colleges (AACJC) in a memorandum to its members, September 5, 1974, reported:

> Throughout these past months, the Office of Governmental Affairs has been consulting with the American Vocational Association, sharing ideas, and working toward accommodation of differences. Among other goals, the office has been hoping that AVA would agree to an increase in the setaside for post-secondary vocational education. We were, therefore, very pleased and surprised that in its testimony on July 31, AVA recommended that this setaside be raised to a minimum of 30%. We also noted with interest that in a colloquy at AVA's hearings, between Congressmen Perkins and Meeds, Congressman Perkins suggested that it might be wise to reserve more than 30% for post-secondary vocational education, perhaps 40% to 50%.

The AACJC members, however, are viewing the seaside for those programs offered as higher education, i.e., grades 13+. The AVA members view this funding generally for those post-secondary programs conducted by secondary institutions, e.g. full time or shared time vocational schools. These two perceptions have resulted in considerable confusion for the establishment, maintenance, and supervision of such programs, in particular, where a division of higher education and a division of vocational education exists in a state.

Problems

The following problems resulting from the above situation as well as federal legislation were identified concerning post-secondary and adult vocational education by reviewing the literature, surveying the states in the U.S.A., and interviewing personnel in the N.J. State Department of Education, Division of Vocational Education:

1. There is an inadequate data collection system to determine the exact numbers of persons enrolling in post-secondary and adult vocational education conducted by secondary institutions and community colleges.

2. There is an inadequate definition to determine the full time equivalent (FTE) of post-secondary and adult vocational students in programs conducted by secondary institutions and community colleges.

3. There is no adequate formula/s for equating the FTE for post-secondary and adult vocational enrollment at secondary institutions with those data produced for post-secondary and adult vocational education at community colleges.

   (Data from these two institutions must be added to give total enrollment.)

4. There is an inadequate formula/s for assisting in apportioning funds fairly to those institutions sponsoring post-secondary and adult vocational education.

Program Offerings

A diagram (Fig. 1) is included to illustrate the continuum of education and the unique situation of post-secondary[1] and adult vocational education. These programs are offered both by senior high schools (secondary) and community - junior colleges. In effect, post-secondary and adult vocational education are being offered by two different types of institutions. Four year colleges and universities also have various forms of these programs, but this is not presently a concern of this study.

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4 YR. COLL.

COMMUNITY-JR. COLL. POST-SECONDARY ADULT VOC. EDUC.

SENIOR HIGH POST-SECONDARY & ADULT VOC. EDUC.

JUNIOR HIGH

ELEMENTARY

PRE KINDERGARTEN

Figure 1. Continuum of Education

OBJECTIVES OF THE STUDY

The research will be focused upon the first three previously stated problems and if time permits, problem four will be investigated.

RATIONALE FOR THE STUDY

The rationale for the study of each of the four problems cited is based on the expressed needs by the members of the New Jersey State Division of Education, Division of Vocational Education and administrators of the vocational schools in New Jersey and other states.

Problem 1 was cited because the New Jersey State Department of Education, Division of Vocational Education needs an exact count of the different persons who are enrolling in post-secondary vocational and adult vocational programs. This head count is a "basic" for planning in a democratic society to answer the questions, how many persons have been effected by this program and how many persons are potential voters for vocational education? A system must be designed to eliminate duplication in counting. This problem is due to a lack of clarification of definition of post-secondary and adult vocational education. It is not a problem unique to New Jersey.

Problem 2 concerns the creation of a definition to determine what is a full time equivalent student (FTE). It is necessary to establish this formula so that a fair measure is available for showing the contact hours considered to be that of a student in full time study.

Problem 3 is stated because there needs to be some method to equate FTE for post-secondary and adult vocational education in the secondary institutions and higher education institutions. Federal funds are distributed by the New Jersey State Department of Education, Division of Vocational Education to both the secondary institutions and community colleges offering post-secondary and adult vocational education, therefore, some conversion formula is needed in order to add the data for total enrollment. (Reports to Federal agencies require total post-secondary and adult data, so data from both institutions must be combined.)

Problem 4 must be solved to reduce tension between local education institutions and funding agencies. A formula/s to apportion funds should be designed to include such variables as cost of programs, types of students, etc.

Full Time Equivalent (FTE)
and
Definitions for Post-Secondary Vocational Education and
Adult Vocational Education

Please complete this instrument and mail by December 20 to:

Charles R. Doty
27 Dexter Road
East Brunswick, New Jersey 08816

Should you have questions please call Charles R. Doty at 609-292-9873 (office) or 201-238-1730 (home).

Respondent name[1] _____
Position _____
Name of Institution _____
Phone Number _____

Check type of institution:

_____ Comprehensive high school
_____ Full time area vocational-technical school
_____ Shared time area vocational-technical school
_____ Trade-technical institute
_____ Business school
_____ Community college
_____ Other (specify)

Check funding of institution:

_____ Private

_____ Public

[1]Many of the questions require a narrative type answer. It may be necessary for the investigator to discuss the meaning of some of the narrative. The final report will, of course, be written in a professional, confidential format.

Before an acceptable definition and formula for full time equivalent can be determined, this question must be answered:

> What should be the ratio of weight between one hour of classroom learning experience and one hour of field, shop, or laboratory learning experience?

Critique the following definitions:

> Postsecondary Vocational Education* - means vocational education for persons who have completed or left high school and who are enrolled in an organized program of study for which credit is given toward an associate or other degree, but which programs are not designed as baccalaureate or higher degree programs. (Implication: Postsecondary vocational programs/courses offered fully or in part by a secondary institution are those in which a signed agreement between a secondary institution and a community college or other institution of higher education offering associate degrees exist.)

> Adult Vocational Education* - means vocational education for persons who have already entered the labor market or who have completed or left high school and who are not described in the definition of postsecondary vocational education and for which a certificate or diploma may be given. (Implication: College credit will not be awarded for adult vocational education programs and courses.)

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*These definitions are cited from the Federal Register, October 3, 1977.

It is essential to define the criteria to determine that adult vocational education is vocational. There are two measures for the criteria listed below. On the left you are to rank the criteria from 1 to 12 (1 being most important). On the right is a scale of weights to be given for each criterion. Check the appropriate weight for each critertion.

Ranking		Not Essential	Some Importance	Important	Very Important	Essential
___	Curriculum of sufficient length to provide students with development of salable skill/s.	( )	( )	( )	( )	( )
___	Vocational certification of instructor or equivalent qualifications.	( )	( )	( )	( )	( )
___	Provides job entry slills and/or upgrading of job skills.	( )	( )	( )	( )	( )
___	Counseling services provided.	( )	( )	( )	( )	( )
___	Majority of students pursuing job entry skills and/or upgrading job skills.	( )	( )	( )	( )	( )
___	Curriculum provided for individual needs.	( )	( )	( )	( )	( )
___	Field/shop/laboratory instruction constitutes the major mode of instruction.	( )	( )	( )	( )	( )
___	Curriculum validated by industrial needs.	( )	( )	( )	( )	( )
___	Guidance services provided.	( )	( )	( )	( )	( )
___	Placement services provided.	( )	( )	( )	( )	( )
___	Curriculum contains related classroom instruction to supplement field/ shops/laboratory instruction.	( )	( )	( )	( )	( )
___	Equipment and tools are industrial standard.	( )	( )	( )	( )	( )

Critique the appropriateness of the following formula[1] for determining full time equivalent for adult vocational education.

$$\text{FTE} = \frac{\text{Total Student Contact Hours for One Year (12 mo)}}{450}$$

If the formula above was adjusted so that the 450 was increased to 500, 550, 600 or 650, which of these four denominators, or other number, would be most accurate for determining full time equivalent for adult vocational education? _____ Any reason for this answer?

[1]Source is New Jersey Administrative Code 9:4-3.57, 3iv. Students contact hours include both related classroom instruction and field/shop/laboratory instruction.

Instrument Development

Those vocational programs offered for 1) persons who have completed or left high school and who are enrolled in organized programs of study for which credit is given toward an associate or other degree, but which programs are not designed as baccalaureate or higher degree program, and who are not described in paragraph (1) are for reporting purposes to the Federal Government postsecondary programs. Those vocational programs for (2) persons who have already entered the labor market, or are unemployed, or have completed or left high school and who are not described in paragraph (1) offered without college credit for reporting purposes to the Federal Government adult programs. (90 STAT. 2185, 20 USC 2310)

The Federal definitions are intended, as the legislative history makes clear, for reporting (in the annual program plan and accountability report) and not for allocation purposes. A state may apportion its 15 percent setaside between adult and postsecondary programs according to its decision as set forth in its State plan. (Federal Register, Vo. 42, No. 191, October 3, 1977, p. 53827).

It is emphasized in the October 3, 1977 Federal Register that their definitions for adult and postsecondary programs are not for allocation purposes, they they will not interfere with student eligibility for Federal student loan or work-study money, nor will they jeopardize post-high programs in vocational and technical schools. (53827)

"Postsecondary program" means (for reporting purposes to the Federal Government) vocational education for persons who have completed or left high school and who are enrolled in organized programs of study for which credit is given toward an associate or other degree, but which programs are not designed as baccalaureate or higher degree program. (Section 110(c), 20 U.S.C. 2310) Federal Register, Vol. 42, No. 191, Monday, October 3, 1977, p. 53864).

The flaw in this definition is that persons may have completed elementary or intermediate schools or left these schools.

A logical conclusion from the above definition is that no program or course be called postsecondary unless college credit is awarded to the enrollees. Therefore, in the State of New Jersey, postsecondary programs and courses offered fully or in part by a secondary institution are those in which a signed agreement between a community college and a secondary institution exists.

While this conclusion may not set well with individuals, it is logical in terms of:

1. Standardized reporting at the State and Federal level.

2. Standardized terminology within the educational domain and, probably, of more importance to the understanding of the public as to the meaning of postsecondary vocational education, i.e., organized vocational programs in which an associate degree is awarded upon completion.

Addendum

Statistical Analysis

The twelve criteria cited for evaluating whether a program or course was adult education or adult vocational education were ranked and weighed by six groups. These groups are presidents of community colleges, presidents/directors of private trade, technical and art schools, superintendents of full time area vocational and technical schools (AVTS), superintendents of shared time AVTSs, directors of vocational programs in comprehensive high schools and directors of adult vocational education in both types of AVTSs.

A Kruskal-Wallis 1 Way ANOV test, corrected for ties, was conducted for the groups' ranking of the criteria. (Table A). There was no significant difference among the six groups in ranking the criteria except for "Placement services provided." This significant result is due to the private trade, technical, and art school respondents ranking "placement" much higher than the other five groups. Since the private schools survive by their ability to place their students in jobs this seems a logical finding.

A Kruskal-Wallis 1 Way ANOV test was also conducted for the groups weighing of each criterion. Logically there should have been the same results as the ranking tests above but there were differences. The two significant findings (Table B) show that the superintendents of full time AVTSs place greater emphasis on providing for individual needs and field/shop/laboratory instruction constituting the major mode of instruction than the other groups.

A Friedman two way ANOV was used to answer the question, is there any significant difference among criteria as ranked/weighed by each group? Tables C and D show that the presidents of community colleges do not have a consistent opinion of which criteria are more or less important, i.e., no criterion or criteria are rated significantly higher than the other criteria. The directors of adult vocational education did not answer in sufficient numbers on both scales to give consistent statistical values. It is assumed that had all of these persons responded correctly to both scales that the results would have been significant as for the weighing test in Table D.

To summarize, the findings for Tables C and D, five of the groups had consistent opinions as to which criteria were more important and less impostant. The persons from the community colleges did not discriminate among the criteria to any discernable degree.

These statistical tests indicate that the results shown in Tables 4 and 5 may be considered to be of use in evaluating whether a program or course is adult vocational education in the order of priority that the criteria are given for ranking and weighing. The tests also show which groups are ranking or weighing criterion significantly different from other groups.

TABLE A

KRUSKAL - WALLIS 1 - Way Analysis of Variance
Corrected for Ties
Group Ranking of Criteria

Criteria	Mean Rank of Groups						Total N	CHI-Square	D.F.	Significance
	1	2	3	4	5	6				
	N = 4	N = 5	N = 6	N = 6	N = 3	N = 15				
Curr. Length	26.75	20.80	17.83	24.83	15.67	17.70	39	3.863	5	0.569 NS
Voc. Cert.	18.75	27.40	23.58	19.33	13.33	18.03	39	4.301	5	0.507 NS
Job Entry Skills	17.13	15.10	26.75	13.50	21.67	21.97	39	[illegible]673	5	0.246 NS
Counseling	14.13	21.10	23.92	22.92	13.67	19.73	39	3.368	5	0.643 NS
Pursing Job Sk.	17.63	20.20	20.33	19.33	29.17	18.87	39	2.326	5	0.802 NS
Individual Needs	24.63	25.30	11.17	18.50	18.00	21.53	39	5.877	5	0.318 NS
Major Mode Instr.	29.50	22.80	12.92	17.67	17.17	20.87	39	6.001	5	0.306 NS
Validated Curr.	13.50	21.50	21.67	18.17	29.83	19.33	39	4.046	5	0.543 NS
Guidance	10.88	17.00	20.50	25.08	23.67	20.47	39	4.778	5	0.444 NS
Placement	17.63	5.90	31.33	16.67	33.17	19.50	39	19.038	5	0.002* S
Related Class	15.75	23.20	12.67	26.83	17.33	20.80	39	5.932	5	0.313 NS
Ind. St. Equip.	26.88	18.30	15.75	21.50	13.33	21.17	39	3.740	5	0.587 NS

1 Community Colleges
2 Private Trade/Tech./Art School
3 Full Time AVTS
4 Shared Time AVTS
5 Comprehensive High Schools
6 Directors Adult Educ. In AVTS's

TABLE B

KRUSKAL - WALLIS 1 Way Analysis of Variance
Corrected for Ties
Group Weighting of Criteria

Criteria	Mean Ranks of Groups						TOTAL			
	1	2	3	4	5	6				
	N = 4	N = 5	N = 6	N = 7	N = 7	N = 16	N	CHI-Square	D.F.	Significance
Curr. Length	33.25	18.80	22.67	21.57	22.71	22.63	45	4.231	5	0.517 NS
Voc. Cert	23.88	29.50	26.83	17.29	24.29	21.25	45	3.760	5	0.585 NS
Job Entry Skills	23.00	21.70	27.50	19.36	25.07	22.41	45	2.362	5	0.797 NS
Counseling	28.75	33.20	19.67	22.43	23.00	19.88	45	6.228	5	0.285 NS
Pursing Job Sk.	32.75	30.00	23.67	15.79	24.64	20.56	45	7.035	5	0.218 NS
Individual Needs	37.00	30.00	13.42	19.07	21.64	23.22	45	10.787	5	0.056 S*
Major Mode Instr.	38.13	29.70	13.08	18.86	22.79	22.75	45	11.784	5	0.038 S*
Validated Curr.	10.50	26.80	27.42	22.14	20.79	24.63	45	6.013	5	0.305 NS
Guidance	22.50	32.70	20.42	21.93	27.57	19.53	45	5.809	5	0.325 NS
Placement	27.13	21.40	33.67	19.14	21.36	20.88	45	6.258	5	0.282 NS
Related Class	26.75	26.00	23.00	27.29	20.86	20.19	45	2.533	5	0.772 NS
Ind. St. Equip.	33.25	26.50	19.17	20.43	20.00	23.22	45	4.375	5	0.497 NS

1. Community Colleges
2. Private Trade/Tech./Art Schools
3. Full Time AVTS
4. Shared Time AVTS
5. Comprehensive High Schools
6. Directors Adult Educ. in AVTS's

*Significant Difference Among Groups

TABLE C
Friedman Two Way Analysis of Variance
Ranking of Criteria

Groups	R_1	R_2	R_3	R_4	R_5	R_6	R_7	R_8	R_9	R_{10}	R_{11}	R_{12}	N	CHI-Square	D.F.	Significance
Com. Coll.	4.75	6.75	3.00	8.75	5.25	8.25	7.75	3.00	8.75	8.50	4.75	8.40	4	16.923	11	0.110 NS
Private Trade	3.20	8.80	2.20	10.20	5.20	8.20	6.60	5.40	10.00	5.60	6.40	6.20	5	25.892	11	0.007 S
Full Time AVTS	3.50	7.83	5.33	10.67	5.67	4.50	4.00	4.67	10.83	11.17	4.17	5.67	6	41.769	11	0.000 S
Shared Time AVTS	4.67	7.00	1.33	10.17	5.33	6.67	5.17	3.83	10.83	8.67	7.17	7.17	6	36.769	11	0.000 S
Comp. H.S.	3.67	5.00	2.33	8.67	8.00	6.33	5.33	6.33	10.67	11.33	5.33	5.00	3	18.538	11	0.070 NS
Adult Ed.Dir.	3.20	6.47	2.80	10.13	5.40	7.40	5.87	4.27	10.33	9.13	6.07	6.93	15	77.533	11	0.000 S

R_1 is curriculum of sufficient length; R_2 is vocational certification, etc.

TABLE D

Friedman Two Way Analysis of Variance
Weighting of Criteria

Groups	W_1	W_2	W_3	W_4	W_5	W_6	W_7	W_8	W_9	W_{10}	W_{11}	W_{12}	N	CHI-Square	D.F.	Significance	
Com. Coll.	5.38	5.13	3.75	8.63	7.63	9.63	8.63	2.00	7.50	7.25	5.25	7.25	4	16.837	11	0.113	NS
Private Trade	2.70	7.30	3.30	9.90	7.30	8.80	7.30	5.70	9.60	5.30	5.20	5.60	5	22.169	11	0.023	S
Full Time AVTS	4.25	7.42	4.92	8.50	7.08	5.08	3.42	6.00	9.33	10.58	6.33	5.08	6	23.654	11	0.014	S
Shared Time AVTS	4.50	5.36	3.50	9.64	5.21	7.21	5.71	6.14	9.64	7.43	7.79	5.86	7	21.483	11	0.029	S
Comp. H.S.	4.71	6.57	3.57	10.21	6.79	7.36	6.21	4.14	10.64	7.14	5.71	4.93	7	28.368	11	0.003	S
Adult Ed. Dir.	4.25	6.09	4.00	8.94	6.38	7.91	6.34	6.00	8.91	7.41	5.69	6.09	16	33.382	11	0.000	S

W_1 is curriculum of sufficient length; W_2 is vocational certification, etc.

I. DEMOGRAPHIC AND BIOGRAPHICAL CHARACTERISTICS
A. PERSONAL IDENTIFICATION AND CHARACTERISTICS (Continued)

9. SOCIAL SECURITY NUMBER

The number assigned to a person by the U.S. Social Security Administration.

Federal, State, or local governmental agencies cannot require an individual to disclose his/her social security number for use in maintaining a system of records that was not in existence as of January 1, 1975, unless mandatory disclosure is specifically authorized by Federal statute. Any governmental request for disclosure of a person's U.S. social security number must indicate whether such disclosure is mandatory or voluntary, by what statutory or other authority the U.S. social security number is solicited, and what uses will be made of it.[4]

Information Items:

- Student's Social Security Number
- Female Parent's Social Security Number
- Male Parent's Social Security Number
- Spouses's Social Security Number

10. STUDENT IDENTIFICATION NUMBER

The unique number (or configuration of characters) assigned to the student by the institution and used for identification and record-keeping purposes. In some postsecondary institutions social security numbers are used as student identification numbers.

Information Item:

- Student's Identification Number
- Spouse 's Student Identification Number (if in same institution)

[4] Pub. L. 93-579 (December 31, 1974) Privacy Act of 1974. 83 Stat. 1909.

THE END.